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M. Rosenfeld

A power cruiser handles hardest with the sea on her quarter, giving her a tendency to broach to

Handling the Power Boat at Sea

By JOHN T. ROWLAND

AS AN increasing number of persons each year go afloat for health and recreation, it follows quite naturally that the proportion of inexperienced boatmen waxes larger. Now a boat of any sort, from skiff to ocean liner, requires the knowledge of a certain technique for its safe conduct. In crowded waterways there is peril not only to the beginner and his innocent guests, but to other craft as well. As in other fields, the happy combination of skill, knowledge and judgment which enter into the successful operation of a power-driven craft is acquired through a long apprenticeship of intelligently directed effort.

In a previous article published in YACHTING, we discussed the fundamentals of piloting. This had to do with the problem of finding one's way safely from place to place, under normal conditions; it did not deal with stress of weather or the behavior of power craft at sea. Indeed, when that article was written there were several different types of power boats in common use whose actions varied so greatly that no common rule could be laid down for their handling under conditions of stress. Since then the subject has been simplified by the acceptance of a fairly standardized type, both as to hull form and power, as the typical power cruiser. All design is a compromise, and it would be a mistake to say that this type is ideal. It does, however, embody the qualities which experience has proved to be those most desired. We must, therefore, build our doctrine of seamanship around this boat, rather than try to change an established type to suit a theory. And it is a pretty good sort of boat, at that, if one takes the trouble to study its characteristics.

This standard, or, let us say *normal* type, consists of a rather broad, shallow hull united with a motor of considerable power. All things are relative, and while the engine of 60 horsepower or so, turning up perhaps 1600 revolutions per minute, which builders now put in a 35-foot hull, would have been considered a racing job not many years ago, it is classified as "medium duty" today. The high speed runabout engines turn up half again as much and the ratio of power to displacement, or weight of hull, is much greater. Now, it is a curious and interesting fact that, as the marine gas engine has been approximating more and more closely the automobile motor, the hull form to which it is wedded has diverged further and further from the long, narrow, snaky type that we regarded as epitomizing speed some twenty years ago. Boats have grown fatter and squattier to meet the demand for improved accommodations, and at first glance it would seem that we were hitching a race horse to a plow. It is only when we come to study the lines of the modern cruiser that we discover her capacity for speed, though at the expenditure of a considerable amount of power. I am speaking now of boats

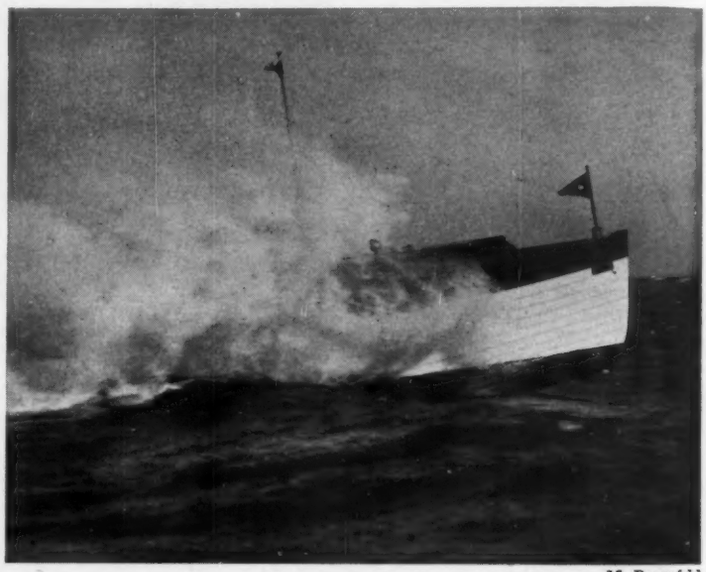
up to about 40 feet in length; above that, of course, the ratio of beam to length can be reduced without seriously interfering with comfort below decks.

The answer is that your modern cruiser hull passes most of the water along her keel: she goes *over* rather than *through* it (as the old, heavy displacement type hull used to do), having this basic quality in common with the fast runabout, even though she does not actually plane. A nice adjustment of lines to power is essential to attain this end, and it affects profoundly her behavior at all times and especially under those conditons of stress which it is our purpose to consider in the present article. It is a concept which the boatman needs to have constantly in mind if he is to handle his craft skilfully and with success. For, whereas the old-fashioned type of hull maneuvered and handled as well at low speeds as at high, and would lie-to with comparatively little leeway, the modern cruiser may become almost unmanageable if her headway be reduced. This is a matter of experience and not of theory.

I shall never forget my first time at sea with a craft of this modern type. I had been used to the heavy, deep and rather narrow sort of boat, with a heavy-duty engine that turned a big wheel not faster than 600 r.p.m. The behavior of such a vessel is not essentially different from that of a steamer. And here I found myself, all at once, going down the coast of Maine in a shallow draft 40-footer, with a motor that roared out *sixteen* hundred. There was a lump of a sea, with the wind fresh at S.W. and a smoky haze which increased as the afternoon wore on. Not being sure of our position, we edged in for a look at Seguin Island, and the next thing we knew found ourselves tobogganing down the seas at a terrifying speed. This was due to the boat's broad, flat stern — a feature that was necessary in order to keep her from squatting. This action had never been apparent in smooth water, nor had we experienced it at sea, because this was the first time we had occasion to bring the wind directly behind her.

As each big wave boosted her under the tail we ran in dread of broaching-to. It was like riding a surfboard, with a motor added. However, we soon saw that her very speed was her salvation, since it made the rudder effective. She ran ahead of everything, even spray, and her flaring forward sections kept her from diving. So long as she went this way we had nothing to fear.

It was, however, a rather uncomfortable way to come in on a lee shore in thick weather. At any moment boiling reefs might leap out of the wrack ahead. Yet we dared not slow down. With her broad, flat after sections, that little brass plate of a rudder would be about as much good at slow speed as a garden spade, if that. Suddenly Seguin loomed up, farther away than we had thought it, and *that* peril was past. Then the question became what to do next. Though not a storm, this was



If you drive a power boat too hard in a head sea the punishment becomes acute

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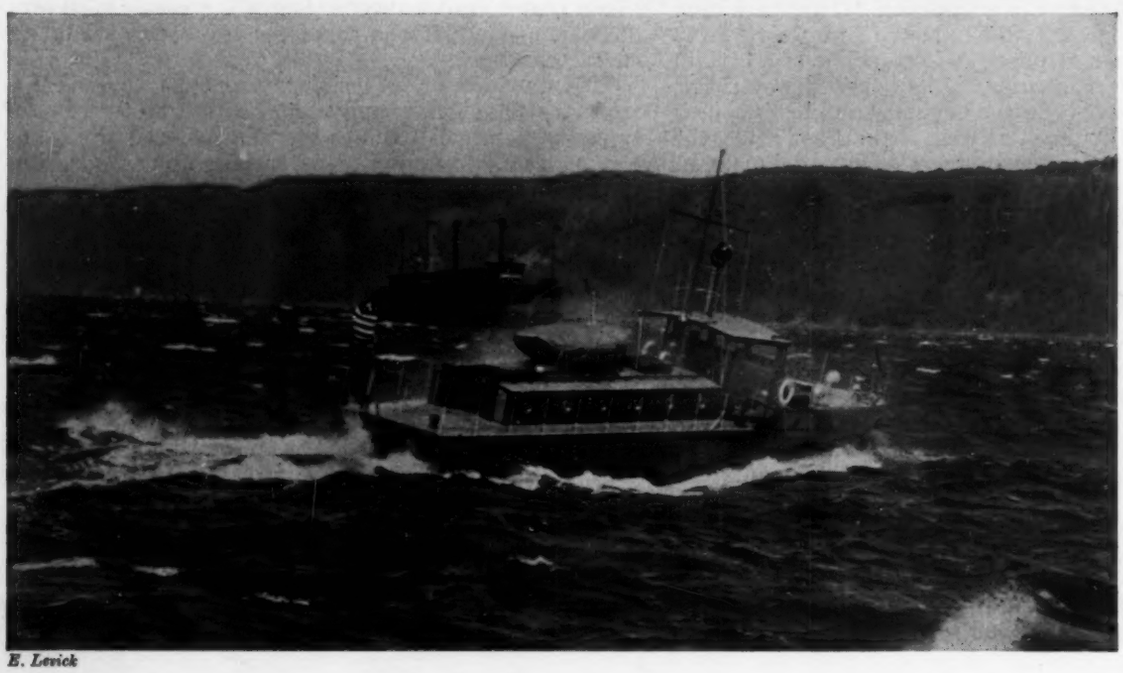
With too much windage forward, it is frequently hard to keep head to sea



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what fishermen might call a "dirty sou'wester." The chances were that the wind would abate an hour after sunset; but that was still several hours away. Meanwhile the wind was steadily freshening and the sea growing higher and steeper as it ran in against an ebb tide. It was, in fact, a rather ugly "lop." A Friendship sloop would have run through it without a second thought, but you can't have everything rolled in one package: we had accommodations and speed, and now the bill was falling due.

The owner, who was a landsman but an intelligent fellow, suggested that we loop it for the nearest harbor and try to get in before the weather grew too bad. I told him that this would take at least an hour, by which time the sea would probably be at its worst; and I hated to think of running the *Siva* through a tide rip off the mouth of a river or bay. Since, however, we had plenty of sea-room, I thought we might lay her to and wait for a couple of hours to see what the weather would do.

We brought her around till she had the wind about four points on the starboard bow, then slowed the engine down as far as it would go and still run. Most of the boats I had gone to sea in would lie quite comfortably in this position with the helm a-lee. But not *Siva*. If you cut her headway below six knots she floundered about and got in the trough of the sea. And, of course, when she had way sufficient to answer her helm she was far from being hove-to. Unfortunately, it seemed as if this slow speed with the wind over the bow was her worst possible condition for steaming. She slammed and jerked and jumped, threw us all over the bridge deck and broke most of the crockery in the locker. We stopped the motor entirely, or, rather, let out the clutch; but that, of course, was quite hopeless. In ten seconds she was wallowing in the trough. So in the end we gave it up and ran for Monhegan Island — further offshore than we were ourselves — where we made harbor for the night. Next morning, the run across to Boothbay took less than two hours.

The lesson I drew from this was that the type of boat we are considering would neither heave-to nor go slowly to windward — nor was it pleasant to run her off before a heavy lop *at sea*. But what she *would* do — and all credit to her — was to run *comfortably* at half-throttle with the wind anywhere forward of the beam. And that was a real accomplishment that afternoon!

I am, therefore, far from decrying the type that *Siva* represents; but I realize that she has her peculiar qualities, just as a destroyer has hers, and that these call for a particular doctrine of seamanship, which may not be applicable to other sorts of boats. That is the basic axiom which it is important to establish. Owing to the dependability of our present motors, the abundance of harbors along the greater part of our coastline,

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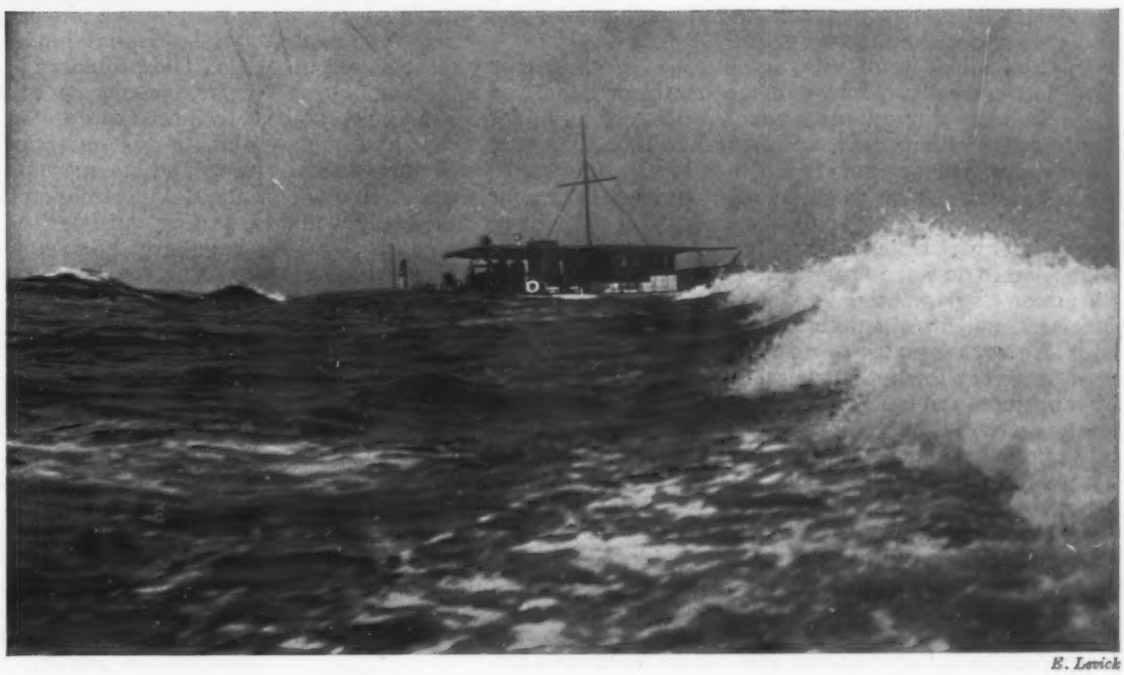
At high speed before the sea a power boat can often run ahead of everything, even spray

When the seas are long and regular, it is only the occasional tumbling crest that one need fear



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and the relatively high speed that these boats can maintain, it would seem that point-to-point cruising was the sort to which they were best suited, with a harbor never far distant. Yet there is always the possibility of being caught offshore. Some of our worst gales in recent years have occurred in August. What should one do if obliged to weather out a real blow in such a vessel at sea?

To answer this question one must first take stock of his assets. It is to be noted that the hull form is one of great power and strength. Several articles have appeared in YACHTING, contrasting the seagoing qualities of the deep cutter and the shallow-draft centerboard boat. It was pointed out that while the deep hull had greater windward ability *for sailing craft* the shallow, beamy type (like the famous *Alice* and Dr. Henry Rowland's schooner *Mary* which made two Atlantic crossings) was almost impossible to drown. Obviously, we do not need to worry about working to windward if we have a motor of sufficient power to drive her there and a hull that can stand the gaff. It would seem, therefore, that as far as essentials are concerned the type is nearly ideal. It has great buoyancy, short ends — no overhangs to pound — ample freeboard and plenty of beam to keep her right side up. It is a rather amusing fact that the modern power cruiser resembles very closely the hull of a Cape Cod cat, than which no more powerful form has ever been devised. But what she lacks is the submerged lateral plane of the catboat's huge barn-door centerboard, without which the cat is utterly unmanageable. The problem then is not one of latent power but rather of handling; and that is where skill and knowledge play their important part.

If one were to take our modern power cruiser, strip her of tophamper (such as fixed awnings and glassed-in enclosures) and seal all deck openings, it is probable that the bare hull would weather out any storm that blows, provided, of course, that in the process she did not drive ashore. But this would not be a practical solution, although in extreme trouble one might well lay an axe to the awning stanchions and get rid of dangerous plate glass. I have seen the windows around a destroyer's winter bridge shattered by a sea, and cuts from flying glass are not helpful. But, save in dire emergency, it is desirable to preserve one's vessel intact. This is quite possible even in a gale of wind, if one has sea-room and goes about the matter properly.

First of all, it is of vital importance to gauge the situation correctly. More damage has been done and more lives lost through mistaking the onset of a gale for a summer thunder squall, and *vice versa*, than from any other cause. The beginner is apt to fall into either error: He will remain at sea when he ought to be scuttling for harbor, or he will become panicky and run for some rock-strewn inlet with which he is not familiar when perhaps all he needed to do was to carry on. This ability to estimate the action of the weather is the basis of what sailors term *judgment*, and it is a difficult matter to learn out of a book. Nevertheless there *are* certain guiding signs. A very high or a very low glass, especially when accompanied by murkiness and a *feeling* of tension in the atmosphere, is an almost infallible harbinger of big wind. Incidentally, no one should attempt to cruise without having a barometer and knowing what it means. A sudden and rapid change in the reading of the glass, whether rising or falling, indicates that the blow is already on its way. Once, while crossing the Gulf of St. Lawrence in a hazy southerly breeze, I noticed the glass take a tumble of two-tenths in an hour. We ran for the shelter of St. Paul Island, less than ten miles away, and it was blowing feather-white out of the northwest before we made a lee. The last two or three miles were a battle against the sheer weight of the wind. That gale lasted two days, and, while we might have lived it out, we would surely have been blown out to sea. On the other hand, an easterly wind that mounts slowly, or a sou'wester that gains force and murkiness towards the end of a summer day, or a thunder squall, no matter how vicious, that bursts suddenly out of the northwest, is not usually to be feared if other conditions are normal and the glass is steady and not too high or too low.

If, however, one is too far offshore to make harbor comfortably and the state of the weather seems unsettled, or if (what is worse) one is close in and there are no harbors handy, the first question to consider is the relative bearing of the land and the direction from which the *big* wind is going to blow, for it is to be remembered that the force of the storm seldom comes from the initial direction of the wind. Most, if not all, of our summer gales are cyclonic, and the wind will shift one way or the other as the storm center approaches. Just how much it will shift or how hard it will blow are things the landsman cannot be expected to estimate. But what he *must* consider is whether a decided change in the force and direction of the wind is going to place him in a position of danger. If so, his plain though unpleasant duty is to get as far as he can from the shore. As we shall see presently, these boats drift pretty fast and it is not wise to have land too close under one's lee. There is an exception to this rule which can best be illustrated by an example. Assume you are following a shore that trends north and south and that the blow strikes in "butt end first" out of the southeast and hauls rapidly into the south. Obviously, any further change, into the west, will mean that the wind is coming offshore. In this event you will do best to keep in as close as you can under that shore and take advantage of its shelter. Still, this procedure is not without its danger. On one sad occasion in which I attempted to weather out a Norther in this fashion in the Strait of Florida, the wind *continued* to go around and blew its hardest from the northeast, which put us right on a lee shore. On the whole, I believe that the general rule holds good: To make harbor if you have a chance; otherwise, run her out and get all the sea-room you can, while it is still possible to go.

This brings us to the question of what to do when you get there — that is, the actual handling of a power craft at sea in a gale. The problem is both simple and baffling. One's purpose should be to keep the vessel heading so as best to meet the onset of the seas. Only that and no more; but to do it may not be so easy as it sounds. Sailing vessels and steamers prefer to meet the sea at an angle of about 45 degrees on the bow, and this probably would be best for our boat too *if we could only hold her there*. We have already spoken of the difficulty of heaving-to in even a moderate breeze, and, of course, this is infinitely more difficult in a gale. With her high, flaring bows and shallow forefoot, your power boat simply will not lie up into the wind, and if you attempt to drive her the punishment soon becomes acute. I have tried letting her have her way and wallow in the trough. Some notable authorities advise this and I must admit that, to my surprise, she did not roll over. Actually, the craft's broad beam, hard bilges and shallow draft, combined with the weight of engine and tanks very low in the hull, make it almost a physical impossibility to capsize her. Also, the fact that she drifts to leeward like a cracker box and rolls down enough so as to present the curve of her bilge to the seas, spares her the terrific punishment meted out to deep vessels in such a situa-

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Across the Pacific Single-Handed

Part I—A Passage in an 18-Footer from Australia, Bound for California

By FRED REBELL

WHEN, in the early hours of January 8th, I tied my sloop *Elaine* to a mooring in San Pedro Harbor and turned in to snatch a few hours of sleep, I felt that I was moving in a world of dreams. Had I actually completed an 8000-mile passage across the Pacific? In retrospect, the period of time — a year and a week — which had elapsed since my departure from Sydney *did* have the quality of a dream.

"Elaine," an 18-foot sloop, and her skipper, Fred Rebell, who sailed her single-handed from Australia to California

Most of my life had been spent in Australia, but several reasons prompted me to quit the country. The objective which I set was my home, Windau, in Latvia, on the Baltic. I had already purchased an 18-foot half-decked centerboard boat, with seven feet of beam, 18 inches of draft, and a 20-inch freeboard. The half-inch planking of my boat seemed too light for ocean work, so I reinforced it by doubling the number of ribs, and by affixing a false keel.

I knew nothing of sailing or navigation, so I practiced in Sydney Harbor. I also spent some weeks in the library, learning navigation and copying charts, and I made my own nautical instruments. The home-made ship's log had for spinner a piece of broom handle fitted with aluminum blades, designed to give a complete revolution for every twelve inches of linear motion. For an indicator I adapted a small clock, which was geared down to register one minute for every nautical mile. Except for a lag of twenty degrees, which could be allowed for, this log proved to be quite reliable, and though several times the aluminum blades of the spinner were damaged by sharks, the log lasted until I crossed the line, when the register refused service on account of corrosion. My compass was a small two-inch boy scout affair, which I suspended in gimbals, and, except for water getting into it several times, which made the needle stick, it, too, proved quite satisfactory for a small sailing boat like mine.

But my sextant, in particular, was novel. I made it of hoop iron, using a boy scout telescope, a couple of pieces of stainless steel for reflectors, an old hacksaw blade for degree register, and a few screws and nuts. Notwithstanding its nondescript nature, it turned out to be accurate enough to within several minutes of arc. The chronometers gave me the most trouble. They were just cheap watches that I suspended in gimbals. One had cost me half a dollar, and had to be wound twice a day, and the other, a non-jewelled Swiss lever affair, kept good time until the spring broke in Suva.

I provisioned *Elaine* with a six-months' supply of dry food, all packed in watertight kerosene tins, fitted with screw caps. I had plenty of flour, rice, semolina, rolled oats, wheat, pearl barley, peas, beans, sugar, cocoa, powdered milk. To this was added dried fruit, potatoes, onions, olive oil, lime juice, and yeast. I carried no tea, tobacco, spirits or medicines. For a daily ration I allowed about one and a half pounds of dry food. Fish was added to the menu when I happened to be lucky enough to make a catch. I also took aboard about 30 gallons of water in asphalt-lined tins and drums, and it kept remarkably well. One gallon of water would last me for three days. For cooking purposes, I shipped a Primus kerosene stove, a bottle of methylated spirit, matches, and a 4-gallon tin of kerosene.

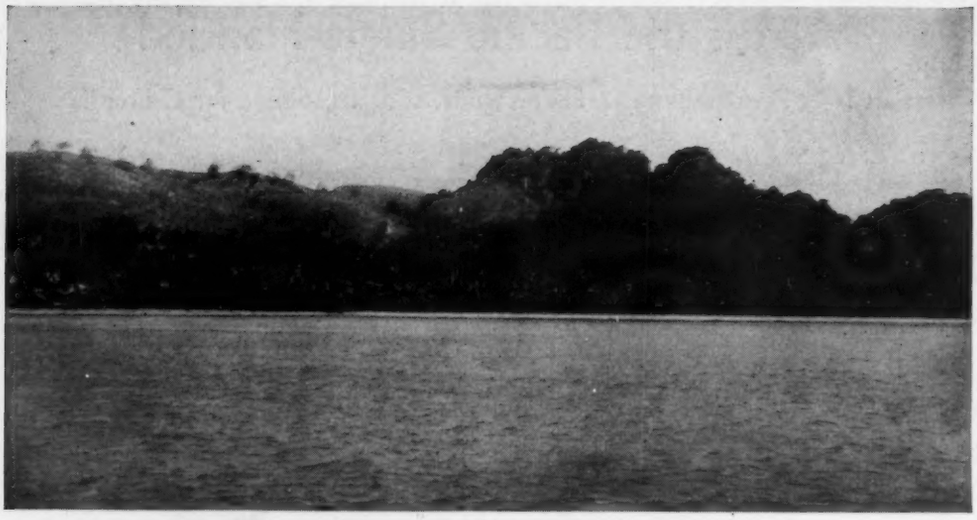
On the 31st of December, 1931, I pushed off from Sydney. My adventure had begun.

Before *Elaine* was out of Sydney Harbor, a southerly "buster" sprang up. Had I watched the shore line I might have seen it coming in a swirl of dust. *Elaine* heeled over until the water was pouring in over the side. I rushed out to get the mainsail down. Within a few minutes the placid waters of Sydney Harbor were whipped up into formidable waves. While I debated whether to run for shelter and wait until the buster subsided, my eye espied, right in the middle of the harbor, a little dinghy, with two boys in it, sail up, going full speed, and bouncing along like a kangaroo. The sight gave me courage. So, under jib only, out I sailed through Sydney Heads.

Outside there was a tremendous swell running. I was a bit seasick for a short time, but, as dusk approached, I stood up in the stern, waved my hand towards the shore and sang out, "Goodbye, Australia — forever!" Then I lashed the tiller and turned in to sleep, while the southerly blow was bearing me ever further from the country which had been my home for twenty-five years.

I slept soundly nearly all night, and next morning was able to hoist the mainsail and then set my course due east.

The voyage had been planned with considerable care, but of course, I could not foresee all the troubles that would crop up. In the first place, the canvas hood I had



fitted over the cockpit amidships turned out to be none too watertight. All the bedding became saturated and for over a week I had to sleep under wet blankets. A mandolin I had brought was so thoroughly soaked that it went to pieces. Then the boat herself started to leak badly along the keel. Day and night I had to bail every two hours. At night I had an empty kerosene tin on the floor of the boat; as the water rose, this tin would float and bash against the sides of the boat. The noise would wake me up, I would get up, bail out the boat, and turn in again for a little more sleep. But the thing was getting on my nerves, and my fingernails had been nearly soaked off. So on the first calm day I lowered the sails, and went overboard with a handful of soft pitch which I rubbed all along the garboard seam. The operation proved effective and, luckily for me, there were no sharks about.

"Elaine" under sail in Australia, and, above, a South Sea Island beach

I had intended to call at Auckland, New Zealand, but the passage through the Tasman Sea was a very stormy one. At times it blew so hard that I could carry no sail at all. The sea anchor which I made tore away the first day I used it, so I had to hoist a small jib and run with the gale. My boat proved herself a staunch little craft, and never shipped a wave. With a good tail wind she could travel a hundred miles a day, but the average was below fifty.

When I reached the date line I found myself driven so far northward that it appeared easier to reach Suva, in the Fijis, than Auckland; therefore I changed my course due north. The sailing now became more pleasant. The southeast trades blew so regularly that for fully a week I had no need to touch the sail or tiller, and the only thing I missed was company. I did a little reading, writing and studying, and the cooking took up some of my time. I used to make my own bread. I would ferment the dough and either fry it as a Johnny cake, or else steam it like pudding. Even in the roughest of weather I could manage to get at least one hot meal a day, or a kettleful of hot cocoa, and the Primus used scarcely more than a pint of kerosene per week.

The watches now gave me some trouble. Salt water had penetrated one, and it had stopped some weeks previous. Now the other one failed, the hook breaking off its mainspring. With the boat pitching, I set to work repairing it, bent a new hook on the spring and got it going again. And as I knew the meridian I was traveling on, I again obtained correct time by a longitude sight. As I approached the Fiji Islands, I had strong misgivings about my longitude, but when, on the eighth week out of Sydney, I sighted Viti Levu, and the island of Yanutha, I was gratified to find that my watch had lost less than a minute. I landed at Yanutha to have a look at the island, and to get a supply of fruit and water, and then I discovered that my centerboard had broken away right under the keel. No wonder the boat had sailed badly the last few weeks! I also found that I could not walk. With every surge of the surf on the beach, the latter seemed to rock under me. Twice, actually, I fell over, but eventually, by adopting the swaggering sailor gait, I managed to get along fairly well. There were no Europeans on this island, but the natives proved very hospitable.

The headman, who is also the preacher, invited me to his home for a Kai Kai (feast). The meal was served on a mat, on the floor, and the variety of dishes and the manner of cooking would have done credit to many a European table. The natives, of course, ate with their fingers, but I was supplied with a knife and fork. Afterwards, "Kava," the native drink, was served; it tasted like cold, unsweetened coffee to me.

Stocking up with fruit and water, I left next morning for Suva, and on the 2nd of March, 1932, I sailed into that harbor and tied up to a jetty. Notwithstanding that I had left Australia without a passport or clearance, the authorities were considerate; my boat was exempt from all charges, and, when I left seven weeks later, I was under obligation to government officials of Fiji for the fine new centerboard which had been fitted to my boat. As the smallest craft that had ever come to Suva from overseas, my boat naturally aroused interest, and several

baby girls who were born in Suva at the time of my visit were christened Elaine, after my boat.

The first night out of Suva *Elaine* came close to disaster. I had set a course for the South Passage, but had made no allowance for currents. At about midnight I dreamed that a large wooden pile was sticking out of the water, right in front of the boat. The fear of impending collision awakened me; looking out, I was surprised to see the Solo lighthouse blinking, just a quarter of a mile to starboard, and right in front of me the white line of breakers over a submerged reef. Quickly I threw over the tiller, and did not turn in again until I was well clear of the danger.

In Suva *Elaine* had been so long on the slip that the seams had opened up, and now she was leaking rather badly, and I decided to stop at Naitauba, one of the Fiji Islands, to have the seams attended to. As I approached the anchorage, where several launches were swinging, I could see that this was not a native settlement. The regular rows of coconut trees running up the hillside, the mooing of cows, the gabble of turkeys and the clatter of geese proclaimed it to be a plantation. Indeed, the whole island turned out to be the property of a planter, Mr. Hennings, who made me welcome, and in whose family circle I spent some very enjoyable days.

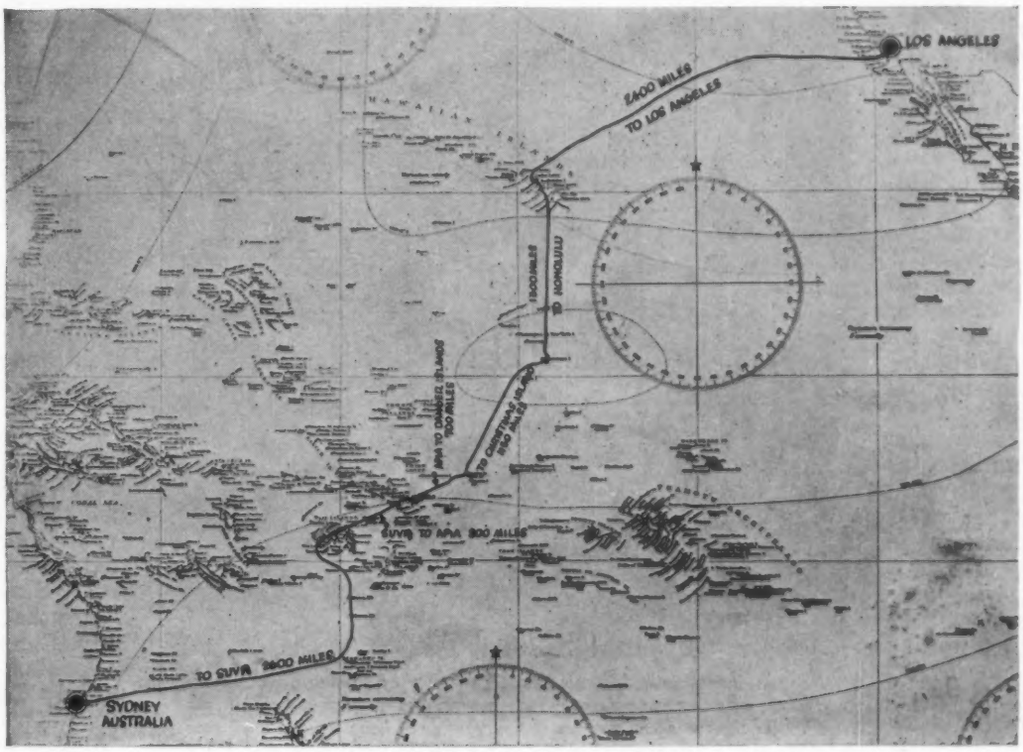
The 10th of May found me past Volangilila, on my way to Samoa. A fierce northeasterly gale arose, and for a while it looked as if I would be blown back on to the dangerous reefs of Fiji, for whenever a gale went beyond a certain force, *Elaine*, being an open boat, had to be hove to, facing the breaking seas. Luckily for me, the blow soon moderated, but the northeast breeze persisted, so that I had to do a lot of tacking in working to windward.

I never saw the ocean so full of fish as on the stretch between Fiji and Samoa. Near sunset, particularly, it was a sight to watch schools of thousands of bonitos, pursued by some enemy, jump simultaneously and repeatedly out of the water. I regret that none of them ever jumped into my boat, but some flying fish did come aboard, and soon were sizzling in my frying pan. I found them good eating. Schools of smaller fish also took to leading and following my boat, and whenever I happened to tack, they would tack too. Some of them apparently amused themselves by trying to imitate the spinning motion of my ship's log, but could make no success of it. On occasions like this, a hooked rag never failed to land me a catch. Sharks, too, would follow for days, and nibble at the spinner of the log. But I disliked their beady eyes, which seemed to watch me, so I tried to discourage them. When one, a seven-foot fellow, got close enough, I jabbed a four-pronged harpoon at his body. I might as well have tried to puncture a motor car tire. I had another go at his head. The harpoon stuck this time. The shark wrenched around and I hung on to the handle, but it broke off short. I believe that shark is still in the ocean, going for his life, with my harpoon like a tiara on his head. I made a spear, then, to use on sharks, and I found that one puncture from it was all they waited for.

I rounded the Island of Savaii on the north, and on May 24th, with a stiff southeast trade, crowded on sail so as to reach Apia before dark. The choppy head sea sent the spray high, and I had to bail every three hours.

Gradually the town of Apia rose out of the water. First a white church, then the roofs of houses, and eventually a whole string of buildings lining the sides of the harbor. What a peaceful place it seemed, what an enchanting contrast of light and shade! The sun had just set behind the mountains and twinkling lights appeared in the town.

I found a good anchorage alongside some barges, near the jetty. I hoisted the yellow quarantine flag, had my tea, and turned in for a peaceful night's rest. Next morning at sunrise the place looked even more alluring than the night before, and I felt a strong desire to explore its mysteries. While I was cooking breakfast, the harbor master's launch came out and towed me to the jetty, where the doctor was waiting.



"Elaine's" track from Sydney, through the South Seas, to Hawaii and Los Angeles

Just as in Suva, some of the white people here thought me quite insane, particularly the harbor master, an old sea captain.

"What!" he said, "You find pleasure in knocking about the Pacific in a boat like that! You must have heard the old saying, 'He who goes to sea for pleasure, goes to hell for fun!' No thanks, none of this for me!"

The natives, on the other hand, seemed to admire me greatly. Had not their ancestors, centuries ago, braved the ocean in coming to these islands? Some of them would always gather round my boat. Others would invite me to their homes for dinner. One young native asked me how I liked the islands. "They look to me to be the finest country I have ever come to," I said.

"If you wish to stay here, I will give you a piece of land to grow your food on," he stated.

"That's interesting," I said. "I'd like to see that land."

"It's in the next village, where my family lives, but don't be mistaken, it's just a plot of ground, for a person here does not need much land to grow his food on."

Indeed, the climate is so congenial, and the soil so fertile, that a family can grow most of the food they need right in the backyard, and the sea provides the rest: fish, clams, oysters, lobsters, crabs, octopus, worms, edible seaweed, and what not, and the South Sea native is not averse to eating all his seafood raw. But they can cook also — in native ovens which consist of a hole in the ground heated by hot stones. The food is neatly wrapped in leaves and placed over the stones, and then the pit is covered with leaves and ashes. In about an hour all the food is nicely done.

It is a proud boast of the Samoans that they have plenty of food. Nobody need ever starve there, and crime is almost unknown. The native houses are open on all sides — just a thatch roof on posts — and in consequence their family life is open to the public gaze.

The native Polynesian race predominates here, though there are quite a number of Chinese, Japanese, and half castes, and several hundred Europeans. The color line is not so strongly drawn as in Suva. I spent five weeks here exploring the country, and enjoying the hospitality of its people. Never was the sail so hard to hoist, or the anchor so heavy to weigh as on that day I left Apia, and even the cheers of the crew of a three-masted schooner I passed on my way out of the harbor were like a funeral march to me.

Next morning Samoa had disappeared below the horizon and with a good southeast trade, I made the Danger Islands in nine days. On approaching, I discerned them as a large triangular reef, dry at low water, with a lagoon inside, and a little palm-covered island on each corner.

When I got under the lee of the biggest of the three islands, some eager-looking natives, who could speak a little English, came out in a canoe and helped to secure my anchor to a dent in the reef, which they called "the harbor." From the natives I learned that there were about six hundred souls on these islands, and only one white man, a trader with his family. There was also a native government resident. Word had been sent to him and he would be along presently to meet me. He turned out to be an educated native, Mr. Geoffrey Henry, a former schoolmaster, and now the government representative.

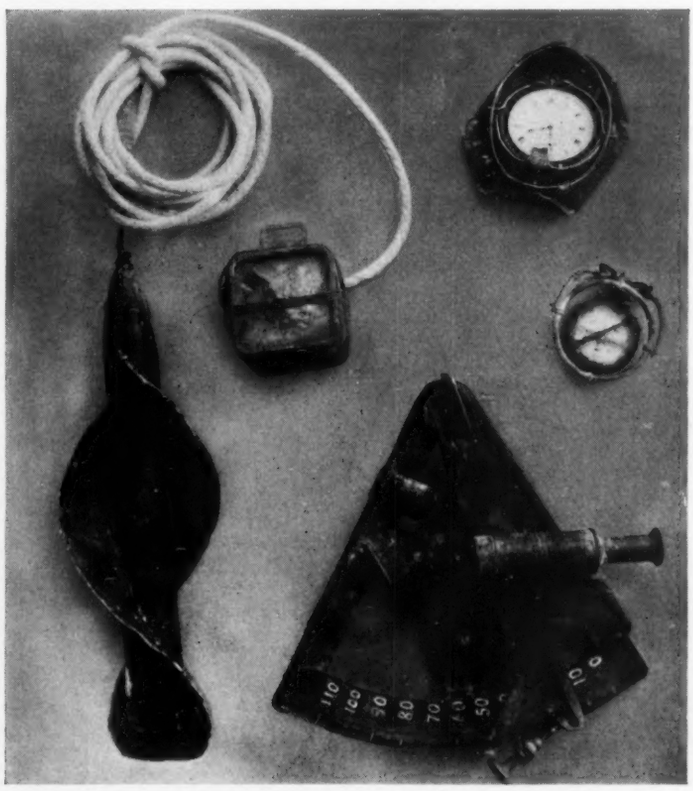
When I had explained to him the reason for my visit, I asked if it were not possible to get my boat inside the lagoon, for should the wind change, my boat would be blown on the reef, on which, high and dry, I could see the wreck of a two-masted schooner. It appeared there was a shallow run across the reef with barely twelve inches of water in it, but with the help of a number of natives, my boat was partly floated and partly dragged into the lagoon, and there she lay safely anchored for the next twelve days.

There are a number of reasons for calling this archipelago the Danger Islands. In the first place, there is no safe anchorage for large boats. Then, being low-lying coral islands, they are barely five feet above sea level at the highest point. In 1914 a tidal wave washed right over them, and it seems extraordinary that no one was drowned in the course of this disaster.

There is not a scrap of volcanic rock anywhere on this island, and except for coconuts and taro, no fruit or vegetables will grow. The natives keep a few fowls and pigs, and seem to thrive on their limited bill of fare, which produces fine physical specimens. The teeth of these islanders are usually sound.

The men spend most of their time fishing, and at night one sees numerous jack lights on the water. There are usually three men in each canoe. One works the paddle, another keeps the palm leaf torches burning, and a third deftly scoops in with a hand net all the fish that are attracted by the light. The world and its strife does not worry these people, and I wish that I could have stayed longer among them, but the seventh of July found me once more at sea, bound for Christmas Island.

(To be Continued)



Rebell's home-made instruments. A section of broom handle with aluminum vanes comprises the log spinner, and a watch movement was used for the recorder. The sextant was made of hoop iron, a hack saw blade and a boy scout telescope. An ordinary watch was used for a chronometer and a boy scout compass was hung in wire gimbals

"Whim III," powered with twin Wright Typhoon engines and capable of 50 m.p.h., was used by Harrison Williams for commuting to New York. She is typical of the super-speed commuters built during the twenties

Commuting by Water

By CARL L. WEAGANT

COMMUTING by water is not what it used to be; that is to say, it is no longer essentially a luxury of luxuries, within the means of only a few. The present speed and state of perfection of the moderate-sized power cruiser, stock boat, and cabin runabout capable of speeds up to 20 miles an hour have made potential commuters of boats which the average yachtsman can afford to own and operate. Evidence of this may be seen on any summer morning or evening along metropolitan waterfronts in the growing fleet of moderate cruisers, many of them stock boats, which are found in company with those big express cruisers which come streaking in and out of the cities every day at high speed — and higher cost.

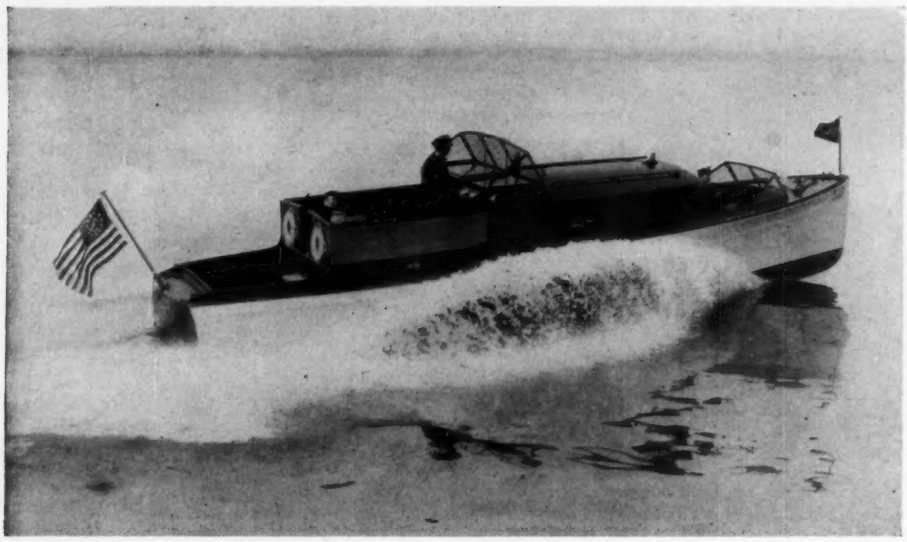
These newcomers to the commuting fleet are certainly more in keeping with the times, and, in some cases, have displaced the gas-eating greyhounds of the extravagant twenties. In a measure, they represent the third period in the use of yachts for commuting, the first period being that before the war, when water commuting was done on a grand scale in big steam yachts. The second period, following the war and stretching through the twenties, marked the development of the high-powered express cruiser, when greater and still greater speed seemed to be the main objective, and the cost was not counted.

But, before considering the possibilities of using stock boats for this most enviable and enjoyable method of getting in and out of our big cities, let us briefly review the development of commuting by water, if for no other reason than to indulge in fanciful ownership of one of those commuter dream-ships.

Before the war commuting by water was only a casual practice; there was no urgent need for it, as roads were not crowded and the automobile was much faster. The little commuting that took place on the water was, as a rule, done in large steam yachts; smaller boats were at that time too slow, and the high-powered gasoline engine was not as yet developed. Probably the most notable commuter of that period was the old destroyer-like *Winchester* which was frequently used by her owner, Peter Rouss, on the run between Glen Cove, Long Island, and New York. She was built for speed and could do better than 30 knots, and her long, lean form might be considered the prototype of the narrow-hulled gasoline commuters which followed her, before the broad-sterned express cruisers with hydroplane-like hulls became popular. The *Winchester* was one of the few boats built primarily for commuting purposes; most commuting during this period was done in big ocean-going yachts like *Corsair* and her contemporaries, although, in 1917, Mr. J. P. Morgan built a smaller boat, *Navette*, a twin-screw 114-foot steam cruiser, for commuting. This boat is still in active service, as it is said that her owner prefers steam propulsion to gasoline because of its noiseless operation.

Then the war came and brought forth the development of high-powered gasoline engines for airplane use, and it was the Liberty motor that was used in the first really high speed gasoline-driven express cruisers built after the war. During this post-war period the automobile began to clog metropolitan highways and the need for water transportation became more acute, adding impetus to the development of fast motor boats. Much of their development grew hand in hand with the technical advances and perfection in racing motor boat engines and hulls, a point which favorably illustrates the oft-questioned value of racing machines as contributors to practical evolution. The lines of more than one express cruiser strongly resembled those of some of the well-known racing hydroplanes. Today, these handsome commuters, with their magnificent power plants, represent not only the acme of swift and luxurious transportation, but the highest development of modern engine and hull design.

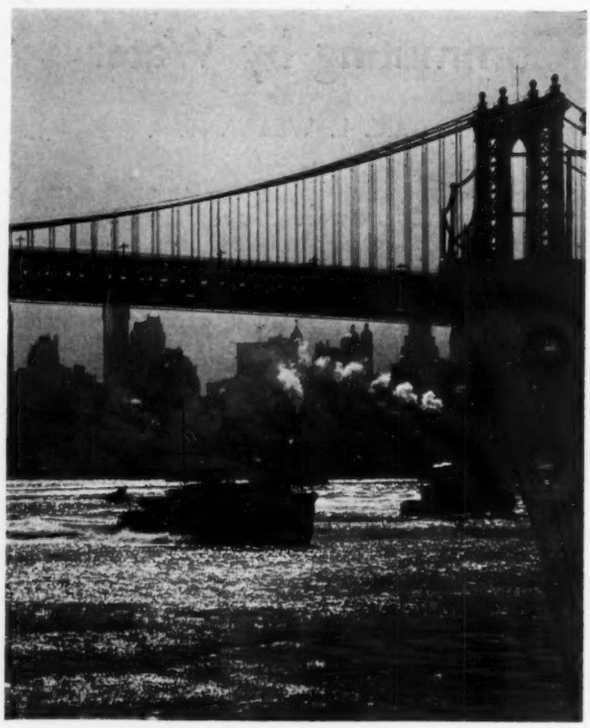
Although other claims might be made, Gordon Hamersley's big 70-foot *Cigarette*, which was built in 1923 by Gar Wood, was the outstanding development during the early twenties. She was lean-hulled, with high, flaring bows, and was good for 50 miles an hour. A good half of her was filled with five 250 h.p. Liberty motors and immense gasoline tanks to feed those five thirsty



A twin-screw a.c.f. 38-foot express cruiser, a stock boat which is well adapted to commuting

12-cylinder engines. On her maiden trip down the Hudson from the Great Lakes she was indeed a spectacle to motorists and train passengers as she roared past them with ease. Whether or not she inspired the designing and building of the fleet that grew rapidly after her appearance no one can tell, but the sight of her long and powerful hull traveling at express train speed must have opened the eyes of future commuter owners to the possibilities of this new kind of water travel.

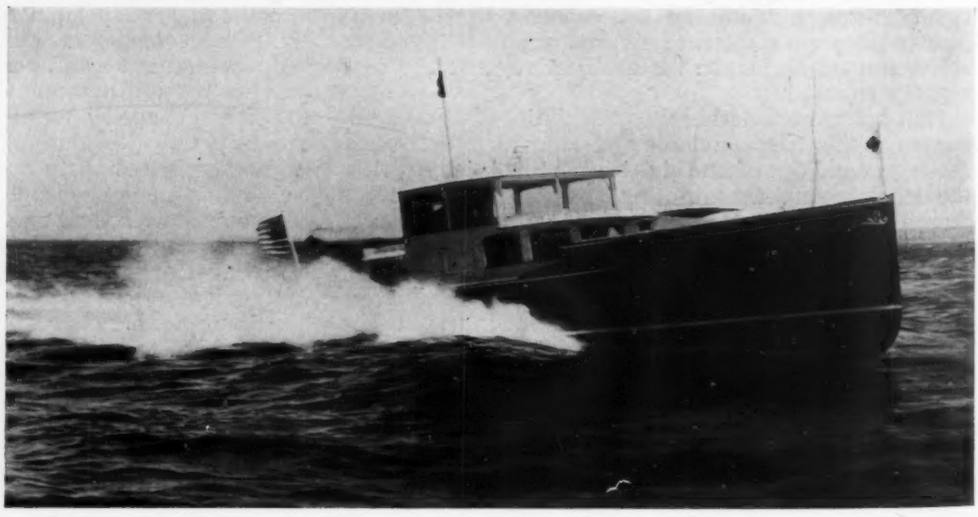
More commuters were built. New engines were designed. The Liberty motor soon found competition in this field of service, first from the Wright-Typhoon engines, and later from Sterling, Hall-Scott, Speedway, Kermath, and Winton engines. Gar Wood continued building a long line of fast express cruisers. Other designers and yards went to work and by 1929 there was built up a magnificent fleet of commuters. New York, for obvious geographical and financial reasons, became the center for fast commuters. Detroit, with its summer homes on Lake St. Clair, was well situated for commuting by water, and a fleet was soon built up. Boston, Philadelphia, and various of the other harbor cities took to commuting by water on a smaller scale.



Commuting to New York was done from Long Island, Connecticut, New Jersey and the Hudson River. Daily runs as long as 75 miles up the Hudson were made by one boat. Regular commuters from Long Island were George F. Baker, Jr., in *Little Viking;* Harrison Williams, in *Whim III*, a 56-footer good for better than 50 miles an hour; Marshall Field, in *Corisande;* Mrs. Ruth T. Pratt, in *Tuna*, a 70-footer powered with twin Sterling engines; and Walter Chrysler in his 75-foot *Frolic III*, powered with twin Winton engines which, it is reported, were tuned to the highest degree of perfection under the keen direction of the owner.

The rendezvous for the Long Island boats and those from Connecticut, which included George Townsend's *Sazarac*, Robert Law's *Robador*, and others, was, and still is for those boats that will be in commission this year, the New York Yacht Club Station at 26th Street, on the East River. In the prosperous twenties it was a common sight to see an impressive fleet of commuters tied three abreast on both sides of the station piers. The Battery made a handy landing place for the Jersey

Homeward bound in a commuter. Below, a custom-built 42-foot Luders commuter. She represents the more moderate type

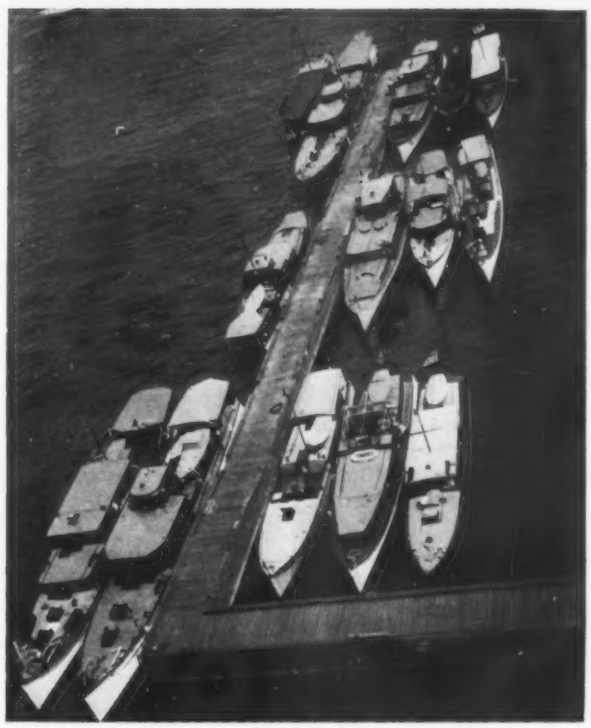


commuters, which included General Borden's *Wig Wag*, which made the run from Rumson, Gerald Holbrook's *Phantom*, and numerous others.

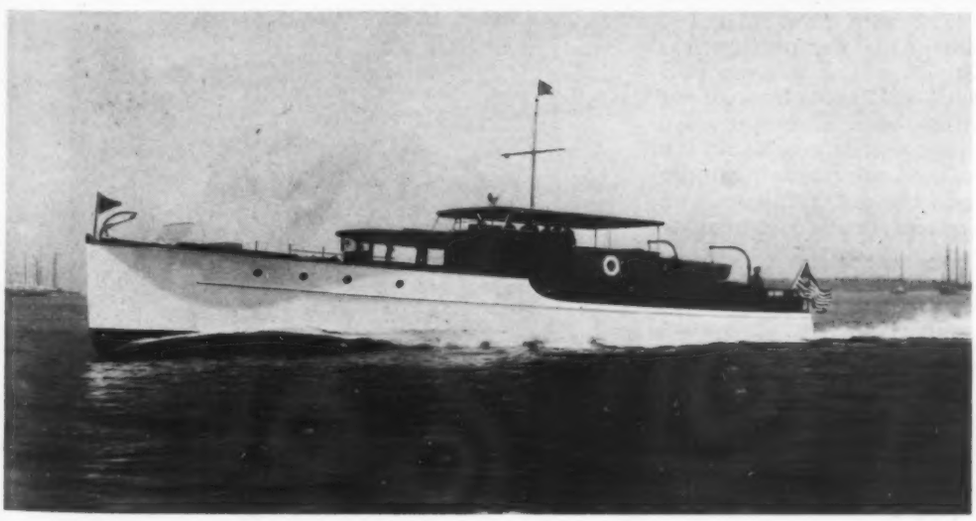
The owner of one of these fast commuters possessed the ultimate in commuting luxury. He could start to work in his bathrobe, stroll down his water front lawn and board his glistening charger, which waited at the end of his private pier. While under way to his city office he would leisurely shave and shower, dress without haste, eat breakfast, and finish the morning paper as the boat was being docked. None of his precious time was lost and much was gained. In addition, he would have an invigorating respite in bracing morning air, together with interesting glimpses of summer shore lines and harbor activity, not to mention the thrill of high speed travel over the water and the sense of satisfaction in commuting with such ease and finesse.

Commuting on this scale has naturally waned since the depression, although the fleet of big express cruisers has by no means become obsolete and many of these boats will probably be in commission this summer. Probably in the next era of prosperity the fleet of super-express cruisers will be larger than ever. But in the meantime the idea of commuting by water need not be given up, nor is it, for less expensive commuters of the stock boat type are capable of accomplishing the essential job of transportation at a cost which has brought commuting by water within the reach of many.

A Hacker cabin runabout, a type of commuter which combines high speed with lower cost



A fleet of commuters waiting at the East River Station of the New York Yacht Club. Below, George Townsend's "Sazarac," a boat which represents the most recent trend in large commuters, away from excessive speed and toward all-round service



Even the smallest of stock cruisers or runabouts with a fair turn of speed can supply a means of commuting. Furthermore, with the feasibility of commuting by water so well established by the larger boats and the congestion of cities becoming increasingly irksome in summer, more people have become aware of and are taking advantage of the possibilities of commuting which the stock boat offers. The man who formerly only dreamed of commuting by water is now able to indulge in this form of travel by reason of the low cost, reliability, and higher speed of stock boats. And he is taking advantage of the opportunity, as any waterfront observer of the changing commuting fleet, which now includes stock boats of many of the well-known builders, will bear witness.

Under power and sail the modified dory will do better than 20 m.p.h.

That Forty-Dollar Hunting Launch

By

PHILIP H. MOORE

THOSE who read the April, 1932, number of YACHTING and who are interested in cheap, seaworthy small boats, will perhaps recall that this dory was built for the writer by the builders who specialize in the Grand Banks dory.

While the standard dory construction was strictly adhered to, the shape of the craft was changed by the designer, from *one-third* of the way aft from the bow, clear to the transom. In fact, all the sheer was taken out of both rail and bottom, from that point, the latter being carried aft perfectly flat, like an old-fashioned hydroplane; its full width amidships was also carried aft. The shape of the stern transom has practically the same shape as the center cross-section of the hull. But it slants or cuts under enough so that an outboard engine with an extra long shaft may hang at the correct angle when shipped.

The result of the above experiment has already been told; we found we had a strong and heavy hull of proven seaworthiness, which could be driven like a hydroplane at good speed over the water with the weight of two men in her. Loaded, she was as fast as any power dory; light, she can make circles around them.

This summary will serve to recall the main points to those interested in this particular small boat. But since last spring some improvements have been effected and the boat has seen some hard usage in rough Nova Scotia waters.

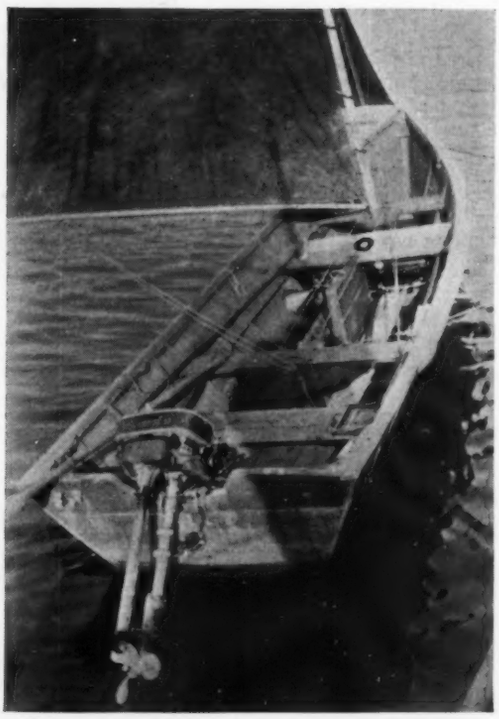
A steel centerboard has been installed, a rudder and tiller that may be shipped in place of the engine, and a 12-gallon pressure gasoline tank with pressure gauge and foot pump (ordinary tire pump) for putting five pounds' pressure on the tank. This tank is connected to the gas inlet pipe on the outboard engine by a copper tube and a short length of flexible hose. There is a valve at the tank and one where the gas pipe "tees" into the feed pipe on the engine. When the boat is running under power, all one has to do to refill the gas tank is to open the gas cock or valve on the pipe next to the engine and keep it open until the gas begins to squirt out of the filler cap, and then close it. In seven hours of running, we had to pump up the pressure tank only once. We started with five pounds' pressure showing on the gauge. The tank will stand fifty pounds, but any pressure, however slight, will force the gas back to the engine, as the tank is under a forward thwart and almost as high as the engine when the craft is underway. This gas feed is cheap to install and requires no machinery and compressed air weighs nothing. I do not mean to imply that the various gas pumps are not good, or practical, but for my particular sort of work compressed air works well and saves money.

I also built, out of ⅜-inch pine, a little engine cover, or box, that keeps all the salt spray and rain off the spark plugs. This box tilts and turns with the engine, and is a real comfort when the old Atlantic is slapping the inventions of mere man right across the ignition with doses of stinging spray.

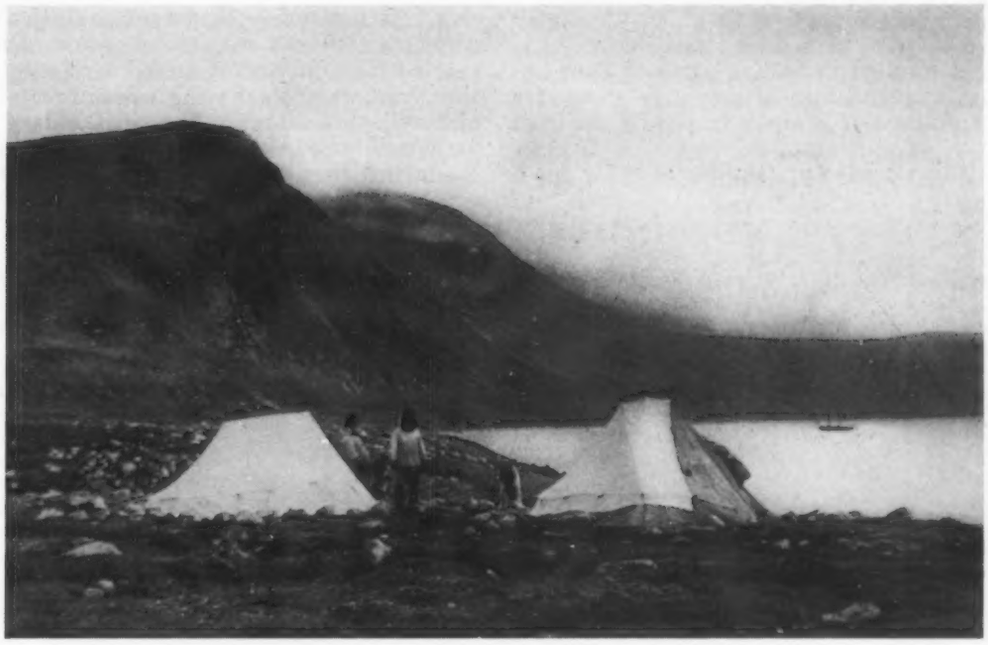
As to the sails, I brought the jib and mainsail halliards through pulleys beneath the mast step thwart, right aft, where I can reach them without leaving the engine. Hence, one may hoist or lower sails without going forward. The rod on the centerboard may be reached from the same position.

The dory rig is still as it was when I purchased it secondhand from a fisherman, except that I use a peak

(*Continued on page 78*)



Interior view showing outboard motor, with steering oar to the left, gasoline tank under forward thwart, with filler cap through the thwart, and halliards leading conveniently aft



The "Ramah" moored in Ryan's Bay within sight of an Eskimo camp

A Northern Labrador Cruise

Part III—The "Ramah" Retraces Her North-Bound Track

By DR. ALEXANDER FORBES

OUR stay in Ekortiarsuk was enjoyable. The weather continued fine, although for two days the wind blew hard from the west, reaching gale force at times. Perhaps the greatest blessing was freedom from mosquitoes, which are the curse of fine weather farther south. Miller, Madden, Morris, Kennard and Grenfell all worked hard on the survey, and by August 14th had completed a triangulation tied to that in the south by angles taken on mountains and headlands common to both. The tide was recorded with an improvised gauge consisting of a harpoon driven into the mud. In Seaplane Cove the rise and fall amounts to five feet; at Ekortiarsuk, 40 miles farther north, it is eight feet. The difference is due to the greater proximity to Ungava Bay, whose tides are almost in the class with those of Fundy. Our anchorage in this northern retreat was unsurpassed. The shelter from all winds is perfect; the holding ground is good, for we rode out a heavy gale to a single anchor without dragging a yard; and the view in all directions is one of rare charm, with gentle slopes of grassy land varied by precipitous and spectacular peaks. Rings of stones, marking the site of Eskimo camps, were found on the shore, but no other signs of human life.

The afternoon of August 14th stands out as a bright spot among the memories of the cruise. The triangulation was completed, with points ranging from the Button Islands, in the north, to Mt. Razorback, in the south. The myth of 7000-foot peaks was exploded, for the highest proved to be about 5000. The gale had blown itself out, leaving a gentle breeze from the south, and a cloudless, blue sky put the finishing touch on the picture of peaceful contentment. And so, well satisfied, we weighed anchor at 4:40 P.M., started out of the fiord, homeward-bound, and anchored for the night in a cove, sheltered by islands, just east of the mouth of Ekortiarsuk.

Next morning we made an early start on our homeward voyage over a calm sea. Scarcely had we rounded Black Rock Point when the lookout reported a dark object resembling the *Strathcona*, off Aulazevik Island. Sir Wilfred had expressed the intention of coming north in her to join us, but with all the demands upon him we had scarcely dared hope we should actually see him. Soon the approaching boat was identified positively as the *Strathcona*, and a few minutes later she turned around and headed south within hailing distance. They had brought us five barrels of fuel oil, which eased our minds enormously concerning the problem of reaching Newfoundland on time. Presently Sir Wilfred came aboard the *Ramah* to talk things over. He had been searching for us in all the fiords from Nachvak north, especially in Ryan's Bay, where he had learned from the Eskimos that we had sailed north, and now with the coal and wood in his bunkers nearly exhausted, he was quite ready to turn south again. Together we cruised along the coast past Ryan's Bay and the Iron Strand into Seaplane Cove, where at 3:30 we anchored together off the dark-room.

There we found a note from Bonnick stating that they were starting to fly south on August 13th. There was also a large package of prints which he had made of the photographs taken from the air. Even more welcome was a package of mail. Brownell had flown the Waco to Nain, refueled there, returned north, stopping at Hebron for our mail, and had brought it to Seaplane Cove. The afternoon was occupied with dismantling the tide gauge, watering ship, picking up the gear left

by the campers, and the anchors to which the planes had been moored. A visit to an abandoned Eskimo igloo with Sir Wilfred resulted in finding some of their implements — a strange mixture of primitive stoneware and crude adaptations of scrap iron picked up from white men.

On August 16th we left our familiar base for good.

A view of Razorback Harbor, with Razorback Mountain, perhaps the most striking ridge in Labrador, in the foreground. Cape White Handkerchief lies to the right, and in the distance, to the left, is Seven Islands Bay

The dark-room, still standing when we left, was soon demolished by the *Strathcona's* crew, for nothing as combustible could go to waste with her bunkers in their depleted state. A final geological excursion delayed our start till the afternoon, and a head wind off Cape White Handkerchief slowed our progress. Rounding that impressive headland, we steered for a harbor which our aerial photographs had revealed, tucked away under the shadow of Mt. Razorback, beneath its northern face, some five miles northeast of the entrance to Nachvak Fiord. This harbor is not shown on the chart, nor mentioned in the Pilot book, but close study of our photographs satisfied us that it would afford a fairly sheltered anchorage near its head. It was not until after 9 o'clock, in the deepening twilight, that we reached the mouth of Razorback Harbor. At the entrance we found a 6-fathom bar, but inside this the water was deeper, and the bar served to impede the ground swell and make a better shelter within.

Next morning Odell and Morris climbed the steep crags of Razorback and followed its sensational, jagged ridge westward to Nachvak Fiord. The summit, though 3600 feet high, rose so steeply above us that with binoculars we could see the two men from the *Ramah's* deck, and even hear them when they shouted.

After lunch, we set out under power in a dead calm for Nachvak, and threaded our way between sinister-looking reefs, which weren't really bad, for they were clearly visible, and the water between them was deep. Of all the fiords in Labrador, Nachvak is the most noted for its scenery, and a cruise in that region is not complete without a visit there. Late in the afternoon we entered the fiord and anchored in Skynner Cove beside the *Strathcona*, she having come direct from Kangalaksiorvik that morning. We left the dory on the beach for Odell and Morris. Scrambling down from Mt. Razorback they encountered some crags and chasms in the dark, which to less expert mountaineers would have been formidable even in the daylight. It was nearly midnight when they ended our suspense by rowing out to the *Ramah*.

August 18th began with a flat calm which made a perfect mirror of the fiord. Odell wished to settle a point under dispute between previous visiting geologists, which called for an excursion some ten miles up the fiord. Encouraged by the fresh supply of oil brought us on the *Strathcona*, we proceeded west under power, and Odell, notwithstanding his tremendous day of mountaineering on Razorback, made a three-hour hike over the controversial terrain, settled the dispute, and was aboard again by 12:30 to resume the homeward journey. Encountering a head wind, we had to content ourselves with making Rowsell Harbor for the night.

The next day was foggy, but we had enough data from our north-bound voyage to lay a straight course for the Muzzle and to pick it up where we expected. From there we simply followed the bold coast to Saglek Bay. A few helpful gaps in the fog enabled us to find our rendezvous with the *Strathcona* at John's Harbor between two islands laying west of Kikkertaksoak, the big island in the mouth of the bay.

Next morning we made an early start in company with the *Strathcona*, and ran out of Saglek Bay under power, for it was a flat calm. At 10:00 A.M. we reached Hebron, and a novel sight it was to see motor boats, houses and a whole settlement of Eskimos and their howling dogs. That afternoon we were on our way again,

having stocked up with flour and potatoes. The calm persisted, and we had to use our engine all the way. The *Strathcona*, with a knot more speed, went ahead to lead the way to an anchorage in a cove on the east side of Mugford Tickle. We reached the tickle after dark, and finding the *Strathcona's* light, came close in to the craggy shore. The anchorage in this cove is almost unsurpassed for scenery, but it has its drawbacks; coming as close to the shore as we dared, we were still obliged to anchor in 27 fathoms. Another light shone beside the *Strathcona's;* it was the riding light of the northernmost of the fishing schooners on the coast, the *Modern Flapper*, by name. When the catch is poor farther south, the fishermen are said to cruise as far north as Ryan's Bay, but the cod were so abundant in 1931 that none sailed north of Cape Mugford.

August 21st was devoted to field work for the mountaineers. Odell and Abbe, in July, found the Kaumajets such a rich field for research that their appetite was whetted for more, and short as our time was getting, we allowed a full day for exploration. The Bishop's Mitre was their central objective, and to reach it they had to be sent six miles along the shore to a landing place. Our 16-foot boat had broken down hopelessly, and nothing fit for the trip was left but the outboard motor boat. With one man she would do about fifteen knots; with four men, about four knots. About sunset she was despatched to get the mountaineers. When four hours had passed without a sign of them, we began to worry. At 11:10 P.M. they returned, thoroughly drenched, having encountered a squall which kicked up so steep a chop that the little boat shipped green water. It was a vast relief to see them aboard — a relief enhanced by the fact that this was the last of their nocturnal ramblings. It was a grand conclusion to their exploits, for they had climbed both peaks of the Bishop's Mitre — a mountain none had climbed before.

Next morning we heaved up the 35 long fathoms of chain and started south at 5:45 A.M., with the *Strathcona* again leading the way, this time through an inland passage between the islands to Port Manvers. A calculation now showed that our fuel shortage was acute, in spite of what the *Strathcona* had brought us. Calms and head winds had eaten into our supply, till we estimated that without wind we should run out of oil 50 miles short of Hopedale. Some of our oil might have reached Nain, but we could not count on finding any short of Hopedale. We could not afford to wait for wind, as now our time for reaching Corner Brook, where Odell was due to catch his train for St. Johns on September 2nd, was too short to allow any tarrying. For three hours the morning calm continued, and we burned our oil, driving south through the islands. At last a light southwest wind sprang up, and we hoisted sail. The wind was almost dead ahead, but our fuel shortage was even more acute than our shortage of time; so we stopped the engine and beat slowly to windward through a succession of beautifully sheltered bays, the *Strathcona* forging farther ahead till she disappeared among the islands. By three o'clock we were still far from Port Manvers, and it was evident that to reach the harbor entrance before dark we must use our engine. Again we began cutting into our dwindling reserve; and now we had a question of technique to face. With a light head wind, is it quicker to haul down sail and head straight into it under power, or to beat to windward, helping the sails with power? The answer must depend on the wind, the sea, the boat and the engine. In our case, the boat would sail to windward best in about nine points, without power; but with the engine we were able to trim the sails flat and keep them full and helping in about six points (three points off the wind), and although we were not unanimous on this point, I believe we made our best progress to windward this way.

Looking southeast along the coast. In the left foreground is the head of Eclipse Harbor and in the upper right quadrant is part of Ryan's Bay, with the Four Peaks just over it

At 8:30, in a clear twilight, we rounded the breaking reefs at the entrance to Port Manvers, still visible against the orange afterglow, and slacked our sheets for the wind-a-beam run up the harbor. Soon the wind died, and we hauled down our sails and ran up the harbor under power, searching the shore to starboard for the *Strathcona's* riding light, but no light did we see. It was pitch dark when we felt our way inshore with the lead to our old anchorage by the cascade.

Next morning we found the harbor glistening in bright, warm sunshine, and all along the shore were fir trees, deliciously fragrant in the warm sun. We had neither seen nor smelled anything like it for more than five weeks, and the effect was exhilarating. The *Strathcona* was nowhere in sight, and we concluded that she had probably gone ahead through Port Manvers Run, and that we should meet her at Nain. At 7:30 we started and were favored by a northwest wind, which gave us the finest kind of sailing through this matchless passage. At 1:50 we dropped anchor at Nain, with oil enough left in our tanks for about 30 miles, and Hopedale still 100 miles away. To our dismay we learned that the *Kyle* had brought us gasoline for the planes, no longer needed now, but not a drop of oil. There was kerosene for sale, and we bought 25 gallons, which was as much as Smith dared mix with our oil, for fear of upsetting the digestion of the engine. This increased our cruising radius another fifteen miles or so, but left us with the prospect of being becalmed without fuel, still many miles from Hopedale.

The *Strathcona* had not come, but we could not wait for her and left our farewell messages with the missionary. Cutting our visit short, we started on, but in less than an hour the wind died and forced us to use the engine again. At quarter of eight we dropped anchor for the night in a beautiful cove called Itikaut. Next morning a breeze enabled us to sail once more. At noon, just as we were rounding the point of Tunungayualuk, a strong, hot, west wind sprang up and sent us tearing through Tom Gear's Run at nine knots — a speed that we had almost forgotten existed. At the Rattle, which leads to Davis Inlet, we had to head straight into the wind, which drew through that narrow passage with gale force. It was too narrow to beat, and even with a fair tide we had to run the engine full speed to drive the boat against the wild blast of hot air, which kept the sails flapping violently. It was only for a minute, and then we rounded the point and under sail alone tore through Davis Inlet at a tremendous pace. The wind held fairly fresh till we reached a sheltered cove by the west end of Shoal Tickle where we anchored for the night. The land breeze was so warm that all hands sat out on deck in the twilight in shirt-sleeves. At 10:30 P.M., with startling suddenness, a cold northeast wind struck in from the sea, and next morning it was bringing in low drizzly clouds, which settled down on the water during the forenoon.

Shoal Tickle was about the trickiest passage of the voyage. But with Grenfell's careful sketch map, MacMillan's ranges, a masthead lookout, and a Magoun kite towed from the bowsprit, we went through without mishap. The northeast wind, although it brought moldy looking weather, took us to Hopedale, running free, and at one o'clock we dropped anchor there with 25 gallons of oil left in our tanks; and thus ended a long period of suspense.

(*Continued on page 86*)

The Waco biplane at Komaktorvik Lake, where the base for the camping party was established. Top. Cape White Handkerchief is an impressive headland

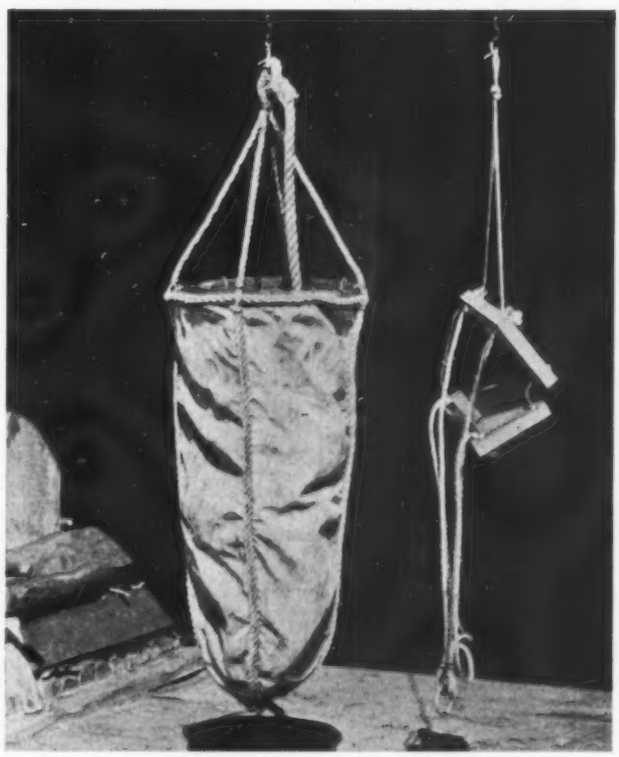
The Double-Plank Drogue

By

FREDERIC A. FENGER

THAT some gear more rugged than the canvas drogue must be contrived for heaving to was evidently recognized many years ago, over a century at least, by our seafaring ancestors who — in their generally wide-sailing vessels which were navigated with instruments and methods that were fallible, sometimes literally to a degree — more often than in the present day, found themselves in situations where it was necessary to maintain their precarious positions by the most reliable means at their command.

Careful thought must have gone into this question, for in the Peabody Museum at Salem is to be found a sturdily made ship's drag, or sea anchor which "when its heavy wooden wings are opened like an umbrella, has a spread of seven feet in diameter." There are six fluke-like vanes over three feet in length and tapering from nearly a foot in width at their outer ends to about eight inches at the wrought iron hinges from which they swing open to form a splayed drogue that, with its multiple eddy-forming edges, must have exerted a considerable drag. In fact, this drogue was so effective that a similar type, though probably of somewhat larger size, was employed "to haul against in a calm by the U.S.S. *Constitution* to aid her in escaping from the British fleet, July, 1812." With its complicated ironwork of sliding arms, it was heavy and expensive to build and its use was limited, no doubt, to that of only the better found ships.



The new drogue shown with canvas bag which it was designed to equal. In actual trials, the double-plank form proved nearly twice as effective

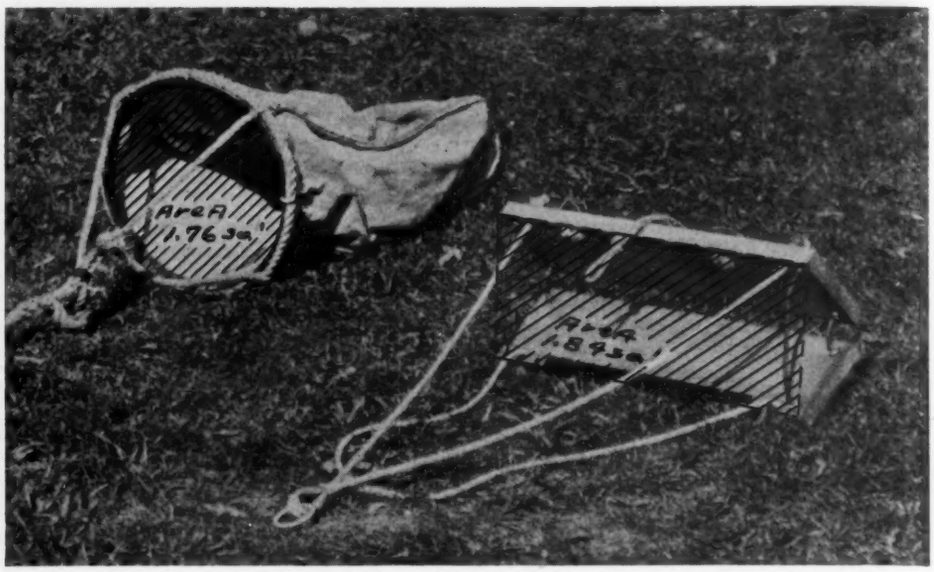
Approaching our own times more closely, we find that it became the habit of whalers to heave to under what at first was probably a jury arrangement but which, through established custom, grew to accepted practice. Thus the 80-ton *Quickstep*, a whaling schooner of the 60's, was regularly hove to under her mincing tub which was 3 feet by 5 feet along the sides and, with its 6-inch lip, acted as a shallow scoop. Four holes were bored through the pine planks at the corners where the bridle parts were led through and across the bottom of the tub which was heavily weighted and then sufficiently buoyed in order to hold it at the proper depth. In making fast the warp, a Carrick bend was used with a wooden pin thrust into the middle of the knot to prevent jamming from the terrific strain, the end being stopped. Laying to with a riding sail on her mainmast, this ready-to-hand gear held the vessel well up so that her bow cut into the breaking seas.

In a like manner, scrap tubs, of about 5-foot diameter, were also favored by the skippers of the smaller whaling schooners while in the somewhat larger craft a junk cask from the ground tier — running to about 250 gallons — was commonly rigged, a blubber hook being attached for ballast.

One cannot altogether dismiss this use of mincing and scrap tubs and junk casks as mere expediency, for heaving to was a common practice among whalers; and their cumbersome gear, although it was quickly available, required considerable ballasting and must have been awkward to rig out from decks that were often filmed with oil. There was always plenty of spare hemp or canvas aboard, and skilled hands to make up a cone drogue that would be far easier to handle. One is drawn to the conclusion that through experience the bag form was given up for the more substantial wooden drogues.

In more recent years, our Coast Guard has evolved its own type of wooden drogue, particularly for use on the West Coast where the greater portion of its rescue work is done through the surf. Here we have an equilateral triangle of oak reinforced with a strip around the edges of the working face, which reminds one of the lip of the whaler's mincing tub. The bottom edge is weighted and there is a three-part chain bridle, the trip line leading from the upper corner. That used in the new power life boats is 2 feet 6 inches on a side, and during a recent trial in a 30-mile breeze in Cape Cod Bay appeared to function as well as the 28-inch loose-mouthed canvas drogue which it was designed to replace (see Sketch No. 1). For strictly offshore use we can compare it more directly with the 26-inch canvas cone fitted with a ring or hoop. Per unit of area, the triangular drogue is very efficient as the three sides form strong eddies which conflict at the corners that tend to disrupt the return currents while heightening the "pigtail" effect. But even in the smaller sizes it would be awkward to stow, while in the larger areas it would not be altogether practical to construct for taking down. For "gang" drogues — a series of small units to the same

warp, as has often been suggested — this form might serve very well. One could rig a "gang" trip with the line so spaced that the near drogue would capsize first, and then the next. Each unit would have to be buoyed separately. Unrigged, one could use them for cocktail trays, or ouija boards to discover who filled the running lights with Montauk gin. In the main, however, the triangular drogue was intended primarily for surf work where there is need for quick tripping and rugged gear, better to withstand the punishment of hauling in over sand and rock than the old canvas bags which continually had to be surveyed out of service.



Another view showing mouth areas

My own reaction, after some experience with the canvas drogue, was that at times the strain on the warp was far greater than one would suspect and that in the larger sizes this form of gear would fail to outlive a squall of much more than twelve hours' duration. A conservative estimate of the strain on a 48-inch round-mouthed drogue while the vessel is being forced rapidly to leeward near the top of a breaking sea, is well over a thousand pounds — and any one who has laid hold of a bar-taut warp during such periods will agree that this figure is not too high. To be sure, a 48-inch canvas bag should be able to sustain a burden of a thousand pounds, say in the form of wet sand, but when this load is transformed into an almost iron-hard stream of water constantly fingering at every thread of its distended material, it is well to shift one's quid over the matter. And while I believe that in the smaller sizes there is no valid reason why the canvas drogue should not remain a satisfactory aid in heaving to — except that it is liable to rot over extended periods of stowage, often in a damp, airless compartment — I have long had it in mind to investigate the possibilities of a more substantial form — of stout wooden planks — to replace the larger sizes even beyond that for a vessel of 50 feet waterline length, and of such design that it would not only prove efficient but would also be convenient to handle and to stow.

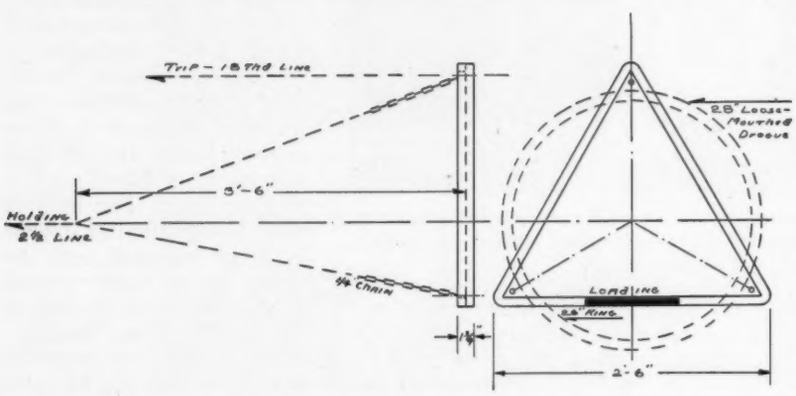
Fortunately, there was sufficient approximate data at hand for a reasonable basis upon which to start.

The simplest and perhaps most efficient form, when account is taken of the material used, is a single flat plank set normally to the medium through which it is being towed. But the given width ratio of 1:6 at once calls for excessive length in stowing, and when the width is increased — without reducing the efficiency too far — it would have to be made up in two planks secured edge to edge. Proper strongbacks would be required as through bolts are likely to bend and bind, making the rig troublesome to take down. After some experimenting, I found that the flat drogue is apt to sheer unless it is provided with a considerable lip, as in the case of the whaler's mincing tubs. But this can be somewhat guarded against by using a chain bridle accurately spaced and with its parts laid out in exactly equal lengths, care being observed as to twists and kinks.

At a ratio of 1:3 between width and length, the flat drogue is very effective. Hence a pair of cabin doors with their knobs removed and either lashed together, or with holes bored in the corners so that the knotted bridles can pass through and cross in back — the whole properly weighted and buoyed with a couple of cork life jackets — will make an excellent emergency gear for a vessel of between 40 and 50 feet waterline.

When the plank is set at an angle of from 20° to 30° with the stream, however, the resistance is considerably increased, but also a strong sidewise sheer is induced and there must be another surface placed in opposition for the sake of balance. Further, in order to insure a maximum of eddy-making effect, the two surfaces must be held somewhat apart. Thus one may picture the wide flat drogue as being divided longitudinally, the planks further narrowed down somewhat and then set at angles with each other to form the *double-plank* drogue. In place of the strongbacks, small flat iron stays, secured with eyebolts and countersunk nuts, are used to hold the planks in their proper relation.

As it is often a far cry between mere slide-rule surmise and actual results, I began with a series of small models which were towed through salt water from a balance rod arranged to act as a steelyard.



Sketch No. 1. Triangular Coast Guard form compared with 28-inch and 26-inch canvas loose-mouthed and ringed drogues

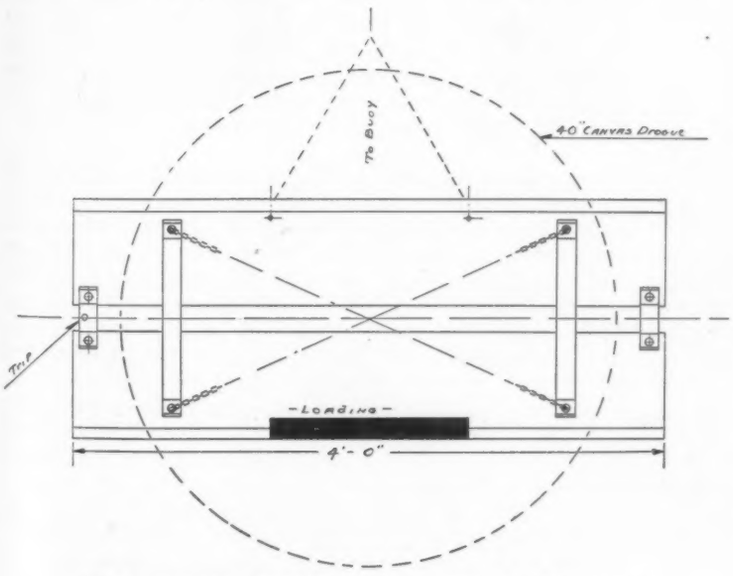
The unit of comparison was a round-mouthed canvas drogue — and it was at this time, as well as later, that I was able to note the increase in pull from the shorter form, accompanied by greater strain in the fabric.

Without going into the results of these early trials at undue length, as eddy-forming conditions were probably not "ideal" for these miniature sizes, it appeared at once that the ratio of 1:6 for plank width in the flat drogue was too narrow. Also there was no apparent advantage in the use of lightening holes to reduce return currents and heighten the "pigtail" effect. After some variations were tried in the plank widths of both the flat and double-plank drogue, it was found that the former was about 90 per cent as efficient, while the latter was equal in pull to that of the bag form. The combined areas of the two planks in the double-plank drogue, however, exceeded that of the flat plank by a small margin, though this seemed negligible when one took into account efficiency and ease of stowing.

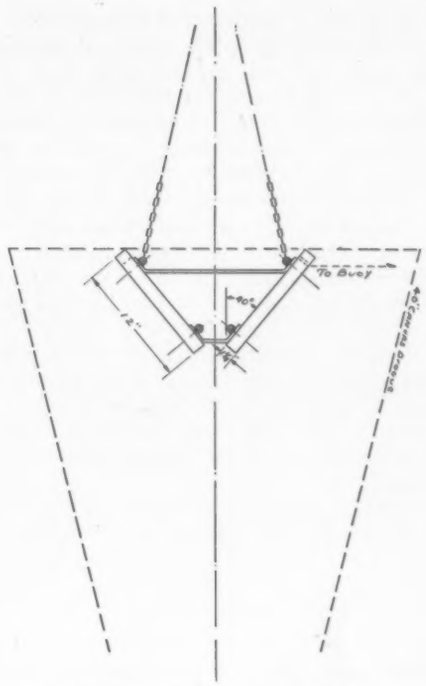
It is interesting to note that boxing in the ends of the double-plank drogue, with flat members acting at zero angles to the current, had no effect one way or another. Evidently the vent was about right for maximum eddy effect around the four long edges of the planks. Increasing or reducing this opening lowered the amount of pull, and when the ends of the planks were cut back and the end pieces set at angles against the current, so that the drogue now approached the pyramidal form of the square-mouthed canvas bag, its efficiency was greatly reduced. What benefit might have accrued from more closely confining the stream through the drogue was more than offset by the shortening of the eddy-producing effect of the inner or vent edges of the planks. This was confirmed when the full sized drogues were compared.

Although the early trials of these "hand models" were far from conclusive, there was enough evidence to indicate the direction to be followed in approximating the design of the larger sizes. And while I was not greatly encouraged in assuming that the double-plank form would offer the ultimate solution — as theoretically it should — I had reason to believe that its efficiency would be relatively greater in the final analysis. This proved to be the case.

In the subsequent trials 18-inch canvas drogues were



Sketch No. III. Double-plank form compared with canvas drogue for 40-foot l.w.l. yacht



Sketch No. II. Double-plank form compared with canvas drogue for 40-foot l.w.l. yacht

used as units of comparison. They were of varying lengths and shapes, that shown in the photographs being in almost true bag form — with the peak rounded instead of coming to a point — and they were towed not only loose-mouthed but also with iron rings fitted to insure maximum area. The area of the flat plank drogue was, naturally, that of the plank itself, while the area of the double-plank drogue was taken as that between the wider edges; *i.e.*, the length of the planks times their spread. These drogues were towed at uniform depths from a launch throttled down to speeds of from two to three knots.

From the first, it was found that the pull of the wooden drogues which had been laid out slightly oversize according to the foregoing results, was nearly twice that of the canvas form. Per unit of area, then, there was a conservative increase of about 40 per cent in efficiency.

The double-plank drogue with its opposing surfaces fixed at 40° from the stream, was so arranged that the plank widths easily could be reduced through various ratios down to 1:4, the mouth areas being correspondingly decreased from 36 per cent and 18 per cent oversize to the final area which was 5 per cent greater than that of the canvas drogues (see photographs). Although one would expect a considerable reduction in the pull as the mouth area was decreased, this was almost entirely overcome because the narrower planks afforded less chance for nullifying return currents to push against their backs. The narrower planks, while retaining their long eddy-making edges, increased the beneficial "pigtail" effect and so, per unit of bulk and mouth area, were decidedly more efficient.

It would be interesting, with carefully calibrated speeds, accurate spring scales and time for numerous adjustments of plank angles and vent

openings, to continue such trials exhaustively. But the time involved, together with practical considerations of construction, limited my investigation to cruder methods. It is very likely, for instance, that were the planks opened more widely, to angles of from 60° to 70° from the stream, their efficiency would be somewhat increased and one could narrow them correspondingly. The bulk of the drogue would then be smaller and require less ballasting. But at such wide angles — being well aware of the abnormal strain induced — it would not only become difficult to maintain a proper relation between the outer edges of the planks, but here again, as with the flat drogue, the risk of sheer would arise. Thus the game is scarcely worth the candle of refining, and I am inclined to believe that the angles and proportions finally arrived at are not far wrong.

While surprisingly effective, the single plank, towed normally against the stream, was not equal to the double-plank form.

After repeated checking, it was evident that in the larger sizes the eddy formations were more nearly perfect than in the "hand models" — due to the relative difference in the density of the medium through which they were towed. The proportions for the double-plank drogue were then worked out as follows:

1. For vessels approaching 50′ waterline, the length of each plank in inches is 1.2 times the l.w.l. in feet. Approaching 80′, the factor is 1.1; toward 100′, the factor is 1.0; and beyond this the factor becomes 0.9.
2. Plank width (to the nearest ⅛″) ¼ their length to and including 60′ waterline. From 60′ to 110′ waterline, ⅕.
3. Vent opening (to the nearest 1/16″ between the inner edges) ⅙ of the plank width.
4. Angle of planks at 40° from the stream, the full angle between them being 80°.
5. Thickness of planks, 1⅛″ to and including 30′ waterline, 1¼″ to 50′ waterline, 1½″ to 80′ waterline, 1¾″ to 100′ waterline, and 1⅞″ for 110′ waterline. For pine. If oak is used, the thickness can be reduced by ⅛″ and there will be a relatively smaller amount of ballast required to sink the drogue. In the larger sizes, then, there is a distinct advantage in the use of oak.
6. Chain for bridles, 3/16″ to and including 40′ waterline, ¼″ to 70′ waterline, 5/16″ to 110′ waterline.

TABLE FOR DOUBLE-PLANK DROGUES

L.W.L.	*f.*	*Plank Length*		*Plank Width*	*Thickness*	*Vent*	*Spread*	*Area Square Feet*	*Chain*
20′	1.2	24″	¼th	6″	1⅛″	1″	8¾″	1.45	3/16″
30′	1.2	36″	"	9″	1⅛″	1½″	12 15/16″	3.23	3/16″
40′	1.2	48″	"	12″	1¼″	2″	17½″	5.83	3/16″
50′	1.1	4′ 7″	"	13¾″	1¼″	2 5/16″	20 1/16″	7.79	¼″
60′	1.1	5′ 6″	"	16½″	1½″	2¾″	24″	11.00	¼″
70′	1.1	6′ 5″	⅛th	15½″	1½″	2 9/16″	22 9/16″	12.06	¼″
80′	1.0	6′ 8″	"	16″	1½″	2 5/16″	23 5/16″	12.93	5/16″
90′	1.0	7′ 6″	"	18″	1¾″	3″	26⅛″	16.3	5/16″
100′	0.9	7′ 6″	"	18″	1¾″	3″	26⅛″	16.3	5/16″
110′	0.9	8′ 3″	"	19¾″	1⅞″	3 5/16″	28 1/16″	19.7	5/16″

(See Sketches II and III for comparison of double-plank and canvas drogues for 40′ l.w.l. yacht)

Although these proportions were arrived at from a basis of waterline length and the eddy-forming ability of the long edges of the planks, the mouth areas — after due allowance for relative efficiencies — agree fairly closely with our experience with canvas drogues up to their practical maximum size, and beyond this point with that of the whalers in their use of mincing and scrap tubs for heaving to. And while I have not the dimensions of the ground tier casks at hand, they must have been somewhat smaller in mouth area than the scrap tubs but evidently were deemed sufficiently large for the purpose in hand. This at once suggests that in the larger vessels we should consider displacement per unit of area rather than mere waterline length. For as the displacement increases together with the draft, which is somewhat more evenly distributed over a long straight keel, the hull itself, acting in more solid water, will require relatively less checking. As we go beyond 90 feet waterline, the tons per square foot of drogue area will increase from about 10 to 15 for 100 feet waterline. Thus the increase in the drogue size here is sharply diminished.

The actual range, then, in the maximum size of the double-plank drogue is from 16 to 20 square feet, while the largest practical area for the canvas form lies just under 8 square feet.

As with the canvas drogue, there comes a practical limit to the size of the double-plank form, not for structural reasons but because of the increased difficulty in handling such a large piece of gear. All things taken into account, it would seem that the largest size — suitable for yachts of from 90 feet to 120 feet waterline length — will be that having planks 7 feet 6 inches by 18 inches, each weighing from 53 to 70 pounds according to whether they are of pine or oak. Double these weights and add for fittings, chain bridles and loading, and the heft will be equal to that of a fair sized dinghy. Hand holes along the outer edges of the planks will help in handling, while the corners may be rounded and nosed.

It is always safe to have the drogue a little under size, particularly for the larger vessels in which there is relatively greater risk of strain at the hawse-pipe, tending to open the bows. And although the initial drag may be less, as soon as the drift increases materially, the drag will also increase as the square of the drift rate and so the actual leeway under a somewhat reduced area will be but slightly higher than the safe minimum.

BRIDLES: With the double-plank drogue the bridles can be rigged fairly short. Also they can be of chain, not only for the sake of durability but also to act partly as ballast well clear of the drogue, thus tending to counteract the lifting effect of the warp. Their weight, then, together with that of the iron fittings, helps materially to reduce the amount of ballast required to sink the drogue.

The lengths of clear chain for the four bridle parts should be two-thirds of the plank length. At the drogue ends, the chains are shackled to shoulder ring, or eye bolts — depending upon shackle sizes — which hold the outer stays and are screwed into nuts countersunk in the backs of the planks. These bolts are placed at one-sixteenth of the plank lengths from the ends and one-sixteenth of the plank widths in from the outer edges. The bight ends — in upper and lower pairs — are shackled to two rings in the swivel eye.

WEIGHTING: As there will be considerable variation in the density of the wood, the ballast required properly to sink the drogue had best be found by trial alongside a float. Definite negative buoyancy must be established, else — when in actual use — the drogue may be towed toward the surface where its effectiveness not only will be reduced but its action affected by the breaking seas so that the vessel will alternately slide off and be snubbed instead of laying to steadily. Roughly the chain bridle and iron work will equal one-third the positive buoyancy and this can be allowed in excess of the weight required just to submerge the two unfitted planks. For the smaller and intermediate sizes, the ballast can be let into the outer edge of the lower plank, in the form of a lead strip one inch deep, set along the middle third of the plank. In the large sizes, such ballasting will overbalance the drogue for handling and so it is better to suspend the

(*Continued on page 84*)

Sanford Photo

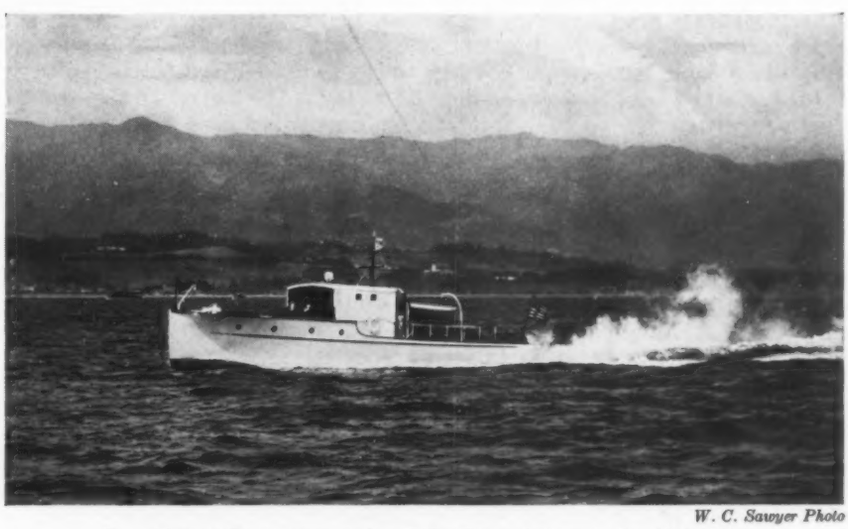
Edgartown, facing Nantucket Sound, offers a delightful harbor for the cruiser in which several days can be spent enjoyably

Your Summer Cruise

Some Suggestions for Cruising off the Frequently Traveled Track

By HERBERT L. STONE

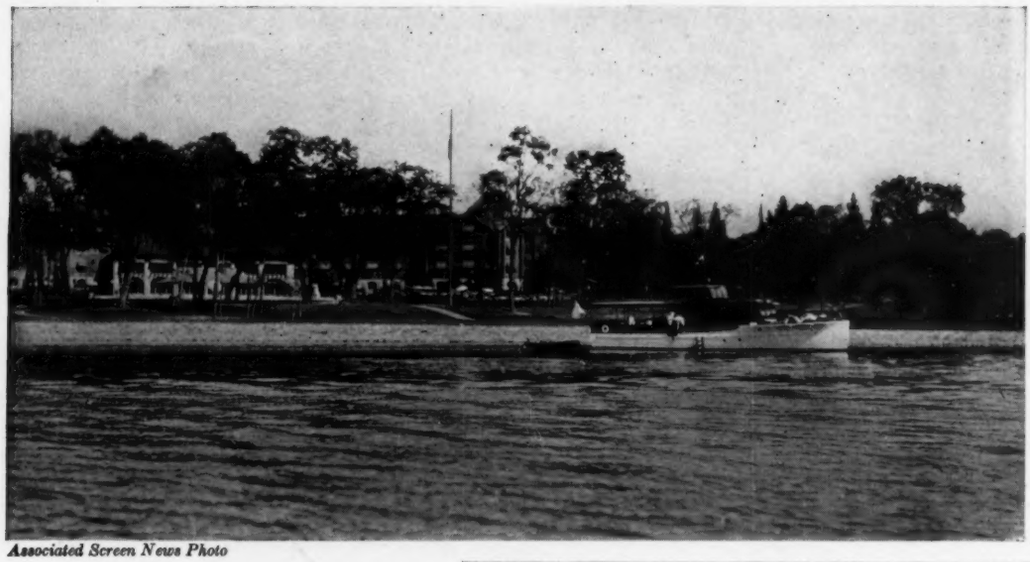
TO TELL the old hand where to cruise is about as profitable as advising the deep water sailing ship skipper on the sailing routes of the seven seas. Most of the former know exactly where they want to go, how long it will take them, the best small boat harbors, and where they can get supplies, gasoline, and the like. So this article is for the novice or for the power boat owner who does not know just what possibilities are waiting to be explored within a few weeks' cruising radius of his home port. But while the old hand may pass it up he need not get "snooty" about the information here offered, for there are many men who have cruised regularly for years and yet never get out of a beaten track, or away from waters which they visit year after year. Very few of the yachtsmen of the North Atlantic seaboard get south of Sandy Hook or east of Campobello Island in the course of many summers of cruising. What they know, they know well, but as for striking out for fresh cruising grounds which may yield much in enjoyment and experience, they simply don't do it. Why this is so I have never been able to find out except that it is always difficult to pry one out of a rut — particularly a hard and fast yachtsman.



W. C. Sawyer Photo

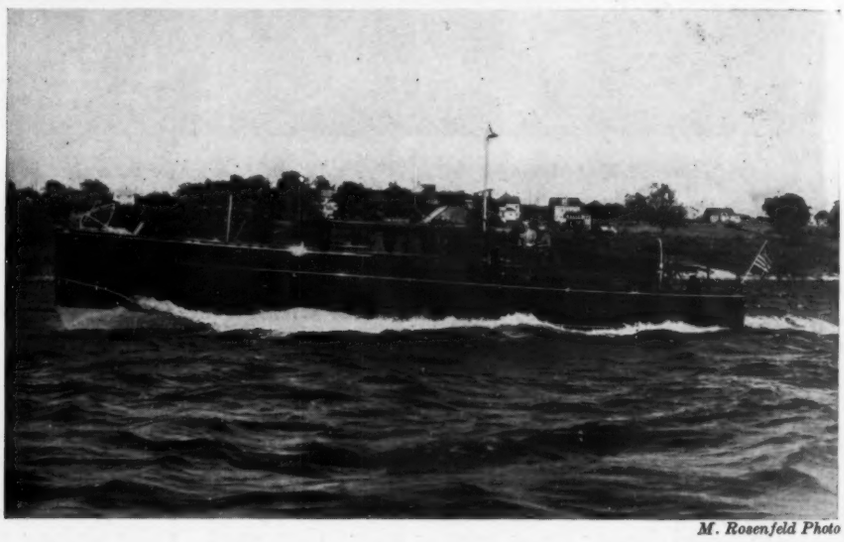
In a 12 to 14 knot power cruiser 100 miles a day can be knocked off in eight or nine hours of running

One of the finest cruises I ever made in the course of thirty years' experience was a few summers ago when I spent a couple of weeks in the North Channel of Lake Huron, and on Georgian Bay. The waters were a cruiser's paradise, comparable to the coast of Maine, but without the fog and with a more rugged and higher coast line, and more numerous



On the Ottawa River, Ontario, Canada. A two weeks' cruise will take one from New York to this picturesque river and return in a modern power cruiser

Associated Screen News Photo



In a modern cruiser such as this, 125 miles makes an easy day's run. "Volkertse," owned by Paul L. Veeder, Hewlett, Long Island

M. Rosenfeld Photo

harbors, bare of any sign of habitation or civilization. And outside, hundreds of miles of open water. It made an appeal stronger than that of any other shore line I know. Yet when I happened to mention something of this to my cruising brethren of the coast, all I got was a supercilious smile and the remark, "Didn't you miss the salt water?" Apparently they could not visualize anything except the stretches of coast they cruise every summer, frequently flat and sandy, and often shrouded in fog.

To the man who has always cruised under sail the enlarged possibilities that come with the use of power are not always realized. Just as the auxiliary engine has greatly extended the cruising radius of a sailing yacht in a given time, making possible the carrying out of a pre-arranged itinerary with some degree of certainty, so the husky, able power cruiser has opened up wider stretches of water and made more distant cruising grounds available to the man who must count the days he can take for a vacation. This is not to advocate the covering of distance as a prime consideration. Far from it. For the greatest joy of cruising comes from poking the nose of your craft into small harbors and out-of-the-way places not ordinarily visited by yachts, and in roaming ashore along the beaches or in the woods, or in trying your hand at the fishing. To make nothing but 12- or 14-hour jumps from port to port every day, with no time out to explore the shore line, is the surest way to make the cruise tiresome and wearing.

But whereas 50 miles a day is a high average for the ordinary auxiliary-powered five- or six-knot cruiser, this can be extended to 100 or 125 miles in the full powered cruiser that will make from 12 to 14 knots. To do this would mean spending only some eight or nine hours underway, which will leave plenty of daylight at the end of the run to enjoy the harbor in which you drop your hook, to prepare a good dinner which you won't be too tired to enjoy, and to visit aboard other boats, if any happen to be anchored near by. And in passing it may be said that an early start has much to recommend it if one is figuring on a full day's run. It is not hard to turn out mornings early enough to be underway, with the breakfast gear stowed, by eight o'clock (if your cabin isn't screened the flies will see to it that you won't sleep late) and the morning is usually the best part of the day to make fast time. The water is usually smoother in the forenoon, the strongest summer breezes being in the afternoon, and 100 miles can be put behind one by four o'clock, or halfpast, giving plenty of time for a swim or a try at the fish or a walk ashore to get supplies, if any are needed.

Take, then, the average 12- to 15-mile honest-to-goodness cruiser (and let it be said here that even with a 20-mile-per-hour boat, 15 miles is as fast as one would probably run her for a stretch of 8 or 9 hours) and one can count on covering in a week of cruising from 600 to 700 miles, allowing at least one day for a layover due to unfavorable weather, or for loafing. On a vacation of a couple of weeks one could count on getting this distance from home and back again without too great a strain. A greater distance could, of course, be covered by stretching the number of hours underway, but this should not be attempted except in an emergency or to make a certain port at a given time, and greater enjoyment will be had by even shorter days' runs than those mentioned.

As the purpose of this article is to point out some of the less frequented cruising waters open to East Coast

yachtsmen whose home ports may be anywhere from Philadelphia to Portland, Maine, we need not dwell on the beauties of Chesapeake Bay, Long Island and Nantucket Sounds, Buzzards Bay and the Maine coast. These are waters one will soon become familiar with after he gets the cruising habit, and in their several and distinctive ways they offer much that is close at hand to the owner of a power cruiser of even the smallest size.

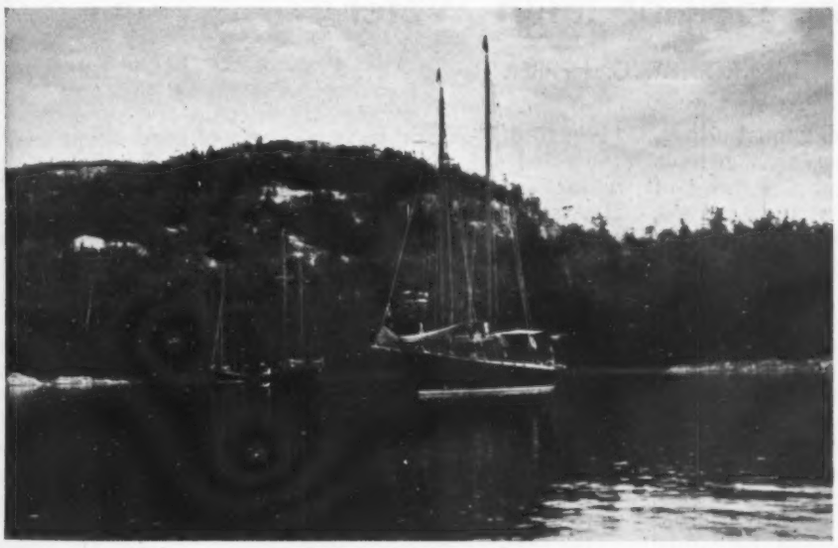
But suppose, instead of cruising south or east, the salt water yachtsman wants to turn north or west and seek new waters and harbors that are strange to him. There is, of course, only one way to start, and that is up the Hudson from New York, through 140 miles of scenery that is hard to equal anywhere. But once at Albany, which can be made in a day and a half without difficulty, there are two ways open to him. He can either keep on northward through the short Champlain Canal to the lake of that name, and thence through a body of water some 115 miles long by 18 to 20 wide, with the Adirondacks rising on one hand and the Green Mountains of Vermont rearing their heads on the other, to the Richelieu River and the St. Lawrence; or he can turn west at Troy through the picturesque Erie Barge Canal and go either to Lake Ontario, at Oswego, or to Buffalo and Lake Erie. Arriving at any of these three points one has an almost unlimited choice of delightful cruising waters where he can spend a week, a month or a season without tiring of the scenery, or of the life, and where one need not retrace his steps for the return journey until he again hits the canal on the way home.

For a cruise limited to two weeks and an extra week-end thrown in, the first mentioned route, via Lake Champlain, is to be recommended on account of the saving of time in the canals. Not that the canal work is not pleasant, for it is; but it does slow one down unless the boat is kept going day and night, which is never to be recommended when cruising for pleasure unless it is imperative to keep to a schedule. Two days' running should take a 12- to 14-mile boat from New York to Whitehall, at the foot of Lake Champlain, unless unforeseen delays occur. There are only 66 miles of the Champlain Canal and twelve feet draft of water can be carried through, although the clearance of the bridges is only fifteen feet and signal masts will probably have to come down during the canal passage. No charge is made on yachts passing through the New York State Barge Canal, but a permit must be obtained from the Commissioner of Canals, 55 Lancaster St., Albany, New York.

Another two days will carry one to Sorel, at the junction of the Richelieu River and the St. Lawrence. In going through to the St. Lawrence, however, the draft of the yacht is limited to 6½ feet, the controlling depth of the locks in the Chambly Canal of the Richelieu River. Thus, with a run of four days each way one still has seven days left of a two weeks' vacation for exploring the St. Lawrence down to Quebec, Murray Bay, Riviere de Loup, and even the mouth of the Saguenay, although to go as far as the last named and still have time for any loafing and sightseeing would keep one on the move, and presuppose no bad weather.

Or one can go up the river to Montreal, Lachine, Lake St. Louis and the Thousand Islands, and have plenty of time to see the shore line and visit numerous harbors all the way to Lake Ontario. An excellent plan, if one has a few more days at his

(*Continued on page 80*)



The pool at the head of Bay Finne, one of the delightful anchorages of Georgian Bay

A landlocked anchorage in the forest bordering Narrow Bay, in the Georgian Bay district

Photo by Mrs. H. Redmond

"The railway wrapped itself all around our keel"

Come Hell or High Water

By ROBERT G. HERBERT

MY SON Bob is boat-crazy. I must admit, before I go any further, that I have always been a bit under the sway of this madness myself. But, now, at the age of twenty-five, Bob has a seagoing habit that dominates the family when he is "on the beach" — as he calls being at home.

So when Bob painted in glorious nautical terms his proposed trip from Annapolis to City Island to deliver a 24-foot sloop, I jumped at the suggestion that I sign on as crew. Especially as he would be the skipper and run the ship, the crew's job being merely to pull a rope now and then, hand and reef, steer, heave the anchor overboard, haul it up again, cook and serve meals, wash dishes and attend to various other little chores beneath the Captain's dignity. The hardest job of all was never to answer back.

The start from Annapolis was inauspicious: the boat was fine but there was no wind.

The man who sold us the *Comet* pointed with pride to the outboard motor (for canal navigation), but as sailors we were much too seasoned to traffic with engines on open water; so we waited and whistled for a wind.

It was a stormy April and if I had foreseen what was coming I would not have whistled. But we wanted wind and we staged such a show that at last Old Man Weather couldn't stand it any longer and said, "If you'll lay off that stuff, I'll blow."

That was fair enough, so we stopped the racket.

And he blew so hard that two days later we limped into Rock Hall, on the Eastern Shore, with two parted shrouds and a split jib, running onto a mud-flat in our scramble for harbor, to be hauled off by a fisherman who towed us to a safe anchorage up Swan Creek.

We made everything snug aboard and went up to the town to dry off and have a couple of good sleeps while the good old wind continued to blow a "No. 9," or whatever the designation is for a storm that does what that one did. Later we learned that it was the worst gale of that stormy month, but in our ignorance we slept peacefully, knowing our *Comet* was tied to the best stake in "the Haven." Next morning at breakfast we learned the bad news. The *Comet* was still resting comfortably in the Haven — but she was resting on the bottom, swamped at her moorings and sunk in two fathoms.

We received the news in sailor fashion, the crew not answering back (Rule 1 of the Articles) while the Captain, enjoying free speech, became a bit picturesque and made it as plain as the nose on your face that the sea was no place for a minister's son.

He then attended to the matter of having the *Comet* raised while the crew patrolled the beach to retrieve whatever floated in from the ship, though with no success until he met an old fellow who told him, "They wuz a pile er stuff down t' Himmon's wharf." And there the crew found everything — mattress, cushions, grating, hatch cover — nothing missing.

The bright side of our mishap was the kind interest of everyone we met. They cheerfully gave us the use of their cars, their time and their knowledge.

And there was Mr. Hersch, the pie baker. He had been in some other business, but he loved to bake, and having started a lunch-room, made pies his specialty. He certainly made a mean pie, and he construed a portion as meaning a quarter of a pie. There were apple pies, peach pies, strawberry pies, pineapple pies, chocolate, lemon and custard pies — he even had Irish potato pies, and they were delicious. Between the shipwreck and those pies we almost decided to stay all summer.

If you ever indulge in a shipwreck, make Rock Hall,

Maryland, the base of your operations. There are no rocks, the shore being all mud; the men folks will turn out to help any "waterman," and the pies are big, cheap, and delicious.

I can't leave Rock Hall without a word about the carpenter, the genial soul who brought us the bad news and then stood by through all our trouble. He lived in a house boat a mile out of town. I had known the house boats on the Ohio River (shanty-town) and I couldn't believe any self-respecting carpenter would live that way, so when I helped him carry home his week's supply of groceries it was with the idea of seeing how his shanty-boat measured up.

We tramped a long mile down the road, then through meadows and along the shore, part of the way up to my ankles in water, before we sighted his boat — two boats, one of them a work shop, and both better than any my Ohio squatter friends had.

On the beach was a woman gathering wood. Her garments were nondescript, but included a pair of rubber boots and a man's well-worn hat. The carpenter hailed her, "Hello Mother. Company for dinner."

"Oh no," said I, "I never eat in the middle of the day." My memory leaped to the Ohio shanty-boats where the bacon was fried black, the coffeepot never cleaned and dyspepsia was the rule. But the carpenter was insistent, so I resolved to go through with it, then hustle back to the village and buy me a nice, big box of soda.

I was ushered into a small kitchen and introduced to "the missus" and to "mother," both of whom greeted me with, "How do, mister," then continued their work with a three-burner oil stove. For the several days that I knew them I was always "the mister," though they rarely said anything directly to me. It was, "Maybe the mister would like some coffee," or "Won't the mister sit here?"

When I saw the dining room I was brought up all standing — there were no boxes or benches to sit on — the furniture consisted of good oak chairs, table and sideboard. The table cloth was fresh and white, the dishes all of one pattern. A chocolate cake was already on the table and my visions of eating out of the skillet faded away. I felt that I might even enjoy eating in the middle of the day.

Oh, that dinner! It was a thing to "write home about"

— and that is what I did. I began to feel that I should have told the Captain where I was going so that he could follow and share this wonderful surprise. Then, far away, I heard our private whistle. We were on our second helping when the Captain joined us and took his proper place right in the lead. He soon overhauled us in the matter of stowage, for when the Captain eats, he *eats!* And the way that loaf of home-made bread melted away was a compliment to the baker. In four days we had five meals there, forgetting even the pies up in town, and our belts stretched to the last notch.

They were a strange group. Three or four years ago they had floated in from New Jersey and, finding plenty of work around, the man decided to stay. He was a clever workman, friendly, talkative, and full of jokes. The women were friendly but silent.

We settled down at "House-boat Landing" and used the good carpenter's work shop in refitting our ship, a job in which he helped a lot, especially with the engine; but the magneto had drunk too much water. We baked it out in the carpenter's oven but it was no use. The nearest magneto being in Philadelphia, we must now rely on sail alone.

The Captain's expert attention put the *Comet* in good shape, the crew getting a thorough four-day course in splicing and reeving off gear, washing and patching sails, and especially in dredging operations which relieved the *Comet* of the tons and tons of Maryland mud which filled every cranny of her bilge. This was all taken out by hand — *my* hand! These necessary operations being finished, I mentioned the possibility of an A.B.'s ticket, but the Captain spoke darkly of two or three more semesters — I suppose he meant languages — which sailors find indispensable.

Blue skies and a pleasant breeze were with us as we loaded our fresh stores with the help of the carpenter and his rowboat. All being set, the ship's company came to attention to give a last salute to the house boaters who were lined up in force to speed us north. The crew felt that some special effort was due the occasion, so from his station up in the bows delivered a speech that stands alone in the annals of our trip — perhaps just as well, for on this trip actions counted more than words — except, maybe, some of the Captain's words. "Mother" came forward with a package she had ready, handed it over and said she thought "Maybe the mister might like to have something besides them crackers."

There was another burst of eloquence from "Mister," and thus the first chapter of our log closed with happy endings.

The second leg of our voyage began with a song on the Captain's lips, but the crew watched the house boats fade in the distance, and thought of the carpenter joking his way through life, and of the two silent women waiting for something that never happened.

Sailing such as we had that day brought a satisfying sense of freedom and peace that left no room for any but happy emotions. Everything was forgotten but the brilliant sky, the sparkle of the waves, and possible adventure lying ahead.

Our next port of call was Sassafras Creek, some twenty-odd miles to the north, with no possible harbor until we reached it. Rock Hall fishermen doubted our ability to make it in one day, but the breeze freshened and our good old *Comet* set herself to do some real work which brought us to the creek late in the afternoon.

The weather was perfect, the breeze steady and everything aboard in good shape. Before preparing to shorten sail, the Captain mustered all hands on the poop deck

and addressed them as man to man. "Mister," said he, "shall we drop the anchor or shall we sail on?"

The crew cast his weather eye aloft, pulled his forelock, and replied, "Keep 'er agoin' while th' goin's good." So on we traveled. The sun went down, dusk deepened into night, and as the crew set the running lights, a full moon rose broad on our weather beam. The wind was strong and cold, but we sailed far into the night — the entire ship's company huddled beneath an extra jib for warmth.

Unlimited space surrounded us as we followed a compass course up the bay. But gradually the shores closed in, black and silent; then we were boiling up the narrow channel of Deer River, overhauling a steamer and making over twice the distance allowed us by our Rock Hall friends. Finally the Captain called it a day and ran into Bohemia River to anchor for the rest of the night.

Next day, with the same clear weather but no breeze, we continued up Deer River and loafed under sail through Back Creek and the Canal to the Delaware River — nine hours to make eleven and a half miles! Off Pea Patch Island a breeze came along and we headed for New Castle, tying up in Du Pont's yacht basin for the night.

New Castle is one of the few towns Washington might recognize if he came back. The crew having a predilection for antiques took one look and laid immediate plans for wrecking the ship again so we'd be held up there for another happy week, but the Captain didn't let any love of old towns interfere with his Duty (Capital D). So he quelled the mutiny, and we, perforce, sailed away with a decided New Castle fixation and a determination to go back there some time when all the old houses are open to the public, and the costumes are in use — which occurs, I was told, once a year.

In the morning, our old friend Weather was on the war path again, serving up squall after squall, with rain most of the time, and we roared up past Wilmington and Philadelphia on our beam ends with a reefed mainsail on the mast, oilskins on the Captain and crew, and cheers by all hands on anchored dredges and steamships.

The crew was just wishing his Mother, or "somebody," could see him when — *Crack!* the main sheet parted. We came up into the wind with a wild sweep; the crew snatched at the jumping boom, the Captain did some quick work with a piece of rope, and off we went again with a new sheet, holding her for the buoy, with her lee rail awash.

We sighted the Keystone Yacht Club with a spontaneous cheer, figuring that we'd had our full share of hard luck and could now look for something different. The mainsail was dropped and the ship came around to the float in grand style. By and by a man came out and informed us that we were to tie up to the big buoy out in the river. We shoved off. Thereupon a squall struck down and drove us smack onto a marine railway! (This was another time when the crew didn't answer back.)

The railway wrapped itself all around our keel and held us there four days until we found a man with a derrick scow who could lift the ship out. The stormy weather continued and when we were finally freed we found we had a boat of a new model. The rudder, twisted on the post by the rails, was on the bias, so that the tiller, when sailing, was 'thwartship. It made steering fore-and-aft instead of hither-and-yon. A bit tricky, but giving more room in the cockpit. In Philadelphia we had acquired a new magneto for the motor, so, with cloudy skies and a stiff breeze headed on our way up-river.

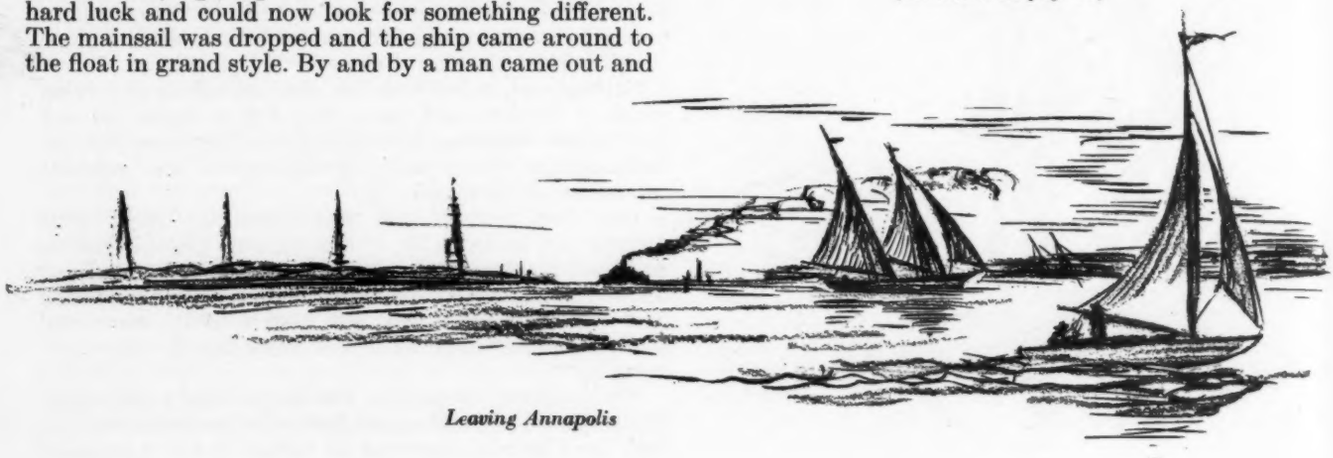
It was a grand trip. Being stuck on a mudflat at the canal entrance off Bordentown meant nothing to us but a chance to think over the good time we were having. We completed a rainy passage through the Delaware and Raritan Canal, and a foggy run down the Raritan River under power. The next morning we started up the Lower Bay, but meeting strong head winds and rough seas, tacked ship and ran the gauntlet of the Kills traffic under power and sail.

At the beginning of the trip our motor had behaved like a lady, so that we were lulled into a sense of security and peace. But things began to happen. In the canal that motor pulled some stunts that nearly wrecked the expedition. First it picked up the only newspaper and wrapped it snugly around the propellor. Next a little handle gadget was dropped into deep water. This was of such importance that the Captain noticed it with a few remarks that brightened up the day considerably. Then a sheer-pin broke. These temperamental outbursts continued until we got into the thickest of the Kill Van Kull traffic, when the motor decided not to bother us any more. So it let go of the boat and made a dive for the bottom. But the Captain, who was steering, held on and followed, leaving his feet in the boat as an anchor.

We were not going to let any blasted engine get away with anything like that, so we yanked it back and, having no brig, we cast it into a corner of the cockpit where it lay and sulked until we got another magneto for it. On this occasion the Captain again did all the talking — and I learned about motors from him.

Our crossing of the Upper Bay was without excitement, but to reach our final port on the Sound we had to negotiate the East River. And the nearer we got to

(*Continued on page 90*)



Leaving Annapolis

Transportation above the falls and into the thick of the Amazon jungles could be accomplished only on foot and in canoes

A Motor Cruiser on the Amazon

Part II—Pushing Up-River Into the Jungle

By DESMOND HOLDRIDGE

GETTING in trim for the voyage to Manaos was a matter of loading fuel, water, provisions and a slave. The slave question was the knottiest problem. We had had a little black factotum on Marajo, who hove up the anchor, dirtied the brass work by daubing it with polish which he failed to remove, cooked (I laugh bitterly), and slept about 23 hours a day.

On one occasion we went ashore in Soure and returning after dark couldn't find the boat. Later she was located a mile and a half away; she had dragged anchor into deep water and drifted until the hook took hold again. Throughout the proceedings, Floriano — that was his name — had reclined on a cushion and slept peacefully. We therefore told him he was too young for a seafaring life and fired him.

Now, there are, in the Amazon Valley, some 50,000 Japanese colonists. I had always regarded the Japanese as a responsible and intelligent race, and so it seemed logical to get a Japanese factotum. We visualized a silent, efficient individual, who would pad about quietly, speak mechanically perfect English which derived from Harvard, and be a spy who was a colonel in the Japanese Army. What we got was Taji.

Taji was the dearest, dumbest, fat-headedest and most loyal man Friday that a pair of Crusoes ever suffered. He could read English and couldn't speak it, but would answer, "Yis, Yis, Yis," to any English order. His Portuguese was much the same. He couldn't cook, and he was so anxious to be useful that he was continually getting under foot. His religion, he said, was Y. M. C. A. Furthermore, he sang the "Stein Song" in Japanese. Need I enlarge?

At this point I feel that I must make an apology, to ease my conscience. I have been giving the impression that I planned to tell you how we charged nearly a thousand miles up the Amazon to Manaos, setting a record as we did so. We didn't do any such thing. We got up a few hundred miles and then left the boat and took the river steamer. It all came about because of that distributor cap.

You may remember that I spoke of the cap having been so chipped that it was no longer held in place perfectly. We sent to Rio for a new one, but the agents there had none in stock, so we wrote to the States and shoved off without it.

It was a quiet Sunday afternoon when we left. The tide was just beginning to flood and the sun had broken through the heavy rain clouds that had hung over the city most of the day. The motor roared right merrily and we watched the whites and reds of Para fade in the distance, elated by the knowledge that our work would keep us up-river for nearly a year.

We reached Furo Rosal and anchored there to await the change of tide in the main body of the Para River. At midnight the wind and tide were favorable and we pushed on. A dim moon helped to guide us and checked the compass for us. After an hour of nice going the motor warmed up well and what with vibration and, I suppose, expansion, the cap of that disgusting distributor shifted slightly. The contact points on one side wore and on the other side failed to pass a spark; the engine commenced to miss violently.

Stopping her and putting the cap in position again helped, but always an hour or so served to put us in precisely the same situation as before and each time a little worse. By morning we were far upstream and nearing the labyrinth of small channels called the Furos of Breves that lead into the main Amazon. The motor was getting steadily worse and she was burning amazing quantities of gasoline.

A day of jerky progress through vast archipelagoes and unobstructed horizons, where the banks were not

in sight, convinced us that our motor cruiser was useless and would continue to be so until we fitted her with a new distributor cap. Had we been cruising, we would have awaited its arrival; but we had a deal of work on our hands, so when we arrived at Antonio Lemas, a saw mill, we left *Rio Mar* with some people there and continued to Manaos in a little river steamer to begin a canoe reconnoissance of the country between the Rio Branco and Serra Parima, the exploration of which was on our program.

The steamers are ridiculous craft, burning wood and taking a great length of time to go anywhere. Some of them leave Para and don't return for months and have thousands of miles behind them when they do get back. It took over a week for our craft to get us to Manaos. One feature of the lower Amazon is its vast monotony. You go to sleep in the evening and awake in the morning to find that to all appearances you are in the very place you were the night before.

Leaving Manaos, we set about our canoe reconnoissance, but not before arranging that *Rio Mar* be towed up to be ready for us when we returned. Three months later we were back to get her.

When *Rio Mar* was delivered in Manaos, she was, to be mild, a bit of a mess. The people with whom we had left her seemed to have used her as a picnic ground. Cushions that had been stowed in the cabin had been brought out to the cockpit and lolled on. Lolling done, they had been left there and the rain and humidity had rotted them. She was an inch deep in dirt all over and her engine was covered with rust. I think we may be pardoned for shaking our heads and saying "Tck-tck."

"Rio Mar" cruised far up the Amazon into the wilds which are depicted by the photo on the right, in which is shown a monkey being skinned for eating

Fortunately, Manaos is the home of a mechanical genius, an artist whose long, sensitive fingers need play for instants only over a sick motor to diagnose, nurse back to life and cure. I refer to Humberto Broggio, an Argentine of Italian extraction who has long lived in Brazil. We called him from his garage and showed him the motor. The gleam, proper to the eye of a true mechanic when confronted by master craftsmanship in engine construction, showed at once, and when a week of frantic labor on his part made the Kermath purr like a well-fed cat, we were not in the least surprised.

Our gasoline we loaded from a fine old sailing ship hulk that lies in the middle of the Rio Negro. Once a stately clipper, by some strange chance she has been brought to an oasis of civilization far up the Amazon and today she dozes in the hot sunshine, visited only when somebody wants gasoline.

We were heavily loaded when we left and decided that 900 r.p.m. would give us an economical 8.5 knots. To have driven *Rio Mar* full speed would have resulted in a great deal of waste, since a small, fast-turning propeller is not suited to pushing heavy weights. The system worked well, our gas consumption per mile was not greatly altered, and in Amazonia, where time is supremely unimportant, 8.5 knots is rather a rush.

The Rio Negro was lovely. People in Manaos told us we couldn't possibly go up without a pilot since even the pilots occasionally get lost. The trouble lies in the fact that the Rio Negro is in places 25 miles wide from bank to bank; in such spots the river is full of islands — whole archipelagoes that continue for miles. You thread narrow channels and if you are not careful you may find that you have entered an endless lake inside of some island and around and around you go, looking for an exit. However, we were provided with an excellent little chart made by Hamilton Rice, partly from the air; navigating from it, we experienced no difficulty.

The water was black — truly black — and the constant wash against the bows yellowed them in a day. The river was interminable — we seemed a speck moving across a great burnished black mirror. Ahead and astern the river met sky as does the open sea. Stately rain storms drifted across it, and rivers with unknown sources entered on either hand. At night we anchored to sleep, though we could as well have continued, for the huge tropical moon was so bright that we could read by its light.

A hundred and eighty miles above Manaos the Rio Negro was still staggering in size. The water on the north shore lightened, the Rio Branco opened up, and the black mirror became a swirling yellow torrent pouring down from the frontiers of British Guiana and Venezuela.

The sea skiff was perfect. We had our meals in com-

fort, we were clean, dry and shaven; insects never found their way aboard and the motor worked beautifully. A kick at the starter every morning, and she would roll over and hum. The rest of the day she would talk to herself peacefully and for the first time our minds were easy and our ears ceased to strain for the sound of the miss or cough that heralded trouble.

For two days we continued up the Branco to the mouth of the Rio Catrimany which came in from the west. Here our handful of Pauishana Indians awaited us, a man and two women. After a day ashore in midstream we entered the narrow Catrimany, bound for a *maloka* it had taken us ten days of hard work to reach in canoes.

In the canoes we had been driven fairly mad by the clouds of piumes, small sand flies whose bite draws blood and frequently results in huge ulcers. On *Rio Mar* we moved too fast for the little devils to annoy us. Once, when we made a stop for stove wood, they did get aboard, but were so confounded by the glass panes of the pilot house that they allowed themselves to be exterminated with Flit.

Aboard we had Taji, the Jap, Eddy, an Arekuna boy from Venezuela who had been with me for two years, a Pauishana man, his sister and his Makushi wife. The two girls were somewhat at a loss as to where a feminine nose might be powdered on this strange white man's "go-devil" and Taji undertook to introduce them to Sands' useful little sanitary device. This turned out to be a hideous mistake. The ladies were fairly hypnotized by it and nothing would induce them to leave it alone. They ran in and out all day long, entirely engrossed by the pleasure to be derived from making water flow with a push on a pump handle.

The Catrimany was flowing faster than it had been when we ascended in canoes and so brought about a slight error in our calculations. While still seven or eight miles from the Pauishana *maloka* and over 400 miles above Manaos, our gasoline supply gave out. Four hundred miles against a swift current, part of the time towing a heavy canoe, is about as much as can be expected of a small power boat in the way of cruising radius. So we were satisfied. But I might point out that a cruising radius of 500 miles still leaves something to be desired in Amazonia. The remaining few miles to the *maloka* were done in a canoe.

On leaving *Rio Mar* we inaugurated an interesting psychological experiment. Smith and I had long contended that Taji had no mind and therefore could not lose it. *Rio Mar* was anchored in the middle of an unexplored tributary of a tributary of a tributary of the Amazon. The nearest human habitation was the Pauishana *maloka*. Since there would be no canoe, a man left aboard would see no people, would be unable to go ashore to stretch his legs, would be unable to swim, owing to the swift current and man-eating piranhas, and would have no one to talk to. Ergo, an excellent chance to go mad. Taji was the least useful member of our crew and since some one had to stay aboard, he was the guinea pig for our experiment. With such perfect facilities for losing his mind, if any, in what condition would we find our Jap after a month of such treatment? We left him fuel and food and pushed on.

The up-river journey, being made in canoes, hardly falls within the province of this narrative. Something over a month later we came down stream and when only a few bends separated us from *Rio Mar's* anchorage, we began to speculate on Taji's probable insanity.

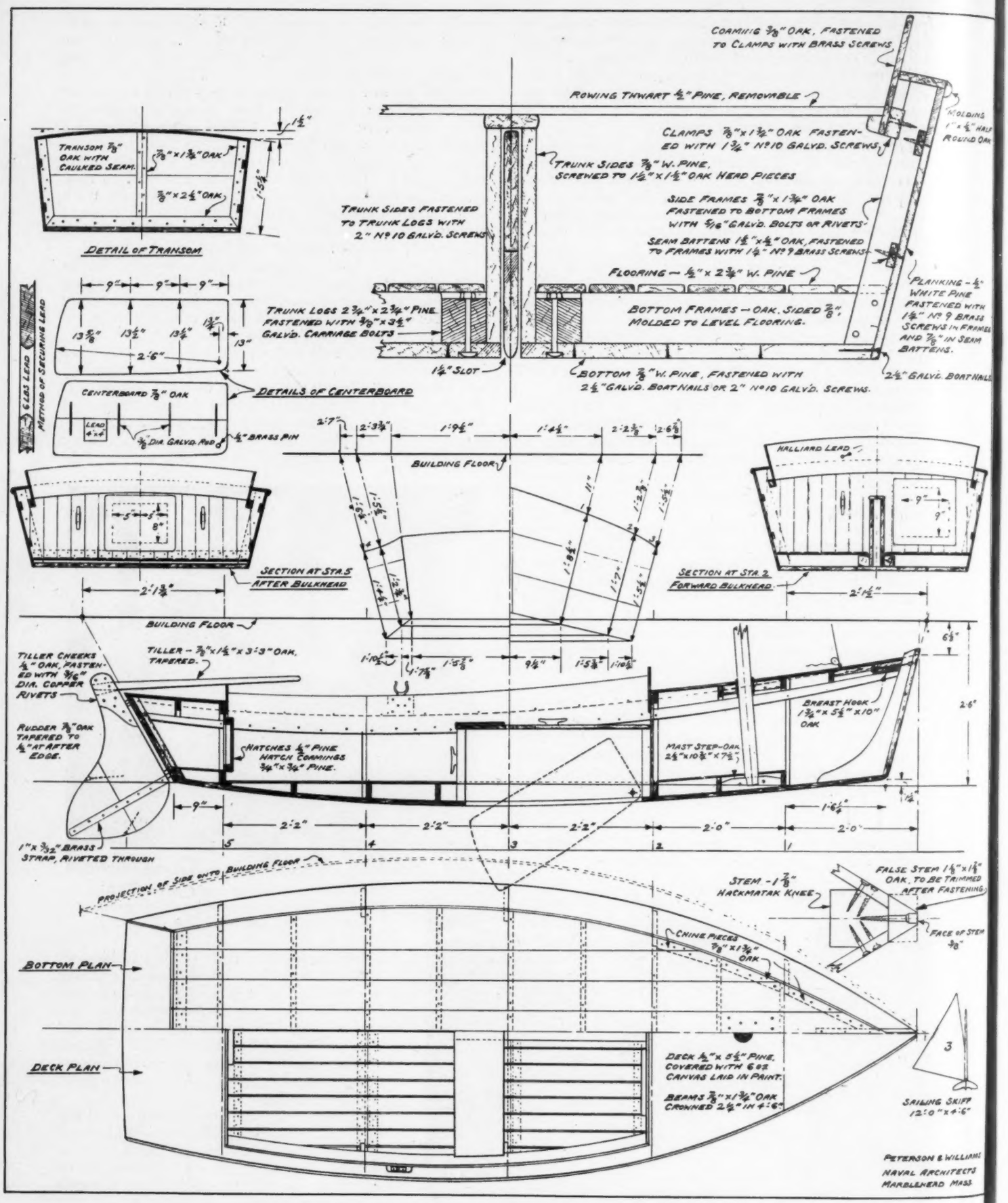
We were right. Taji had no mind to lose. When we boarded we were confronted by an unshaven, unwashed and very ragged individual, but an eminently sane one. He greeted us in normal fashion and the only suspicious symptom lay in the fact that he had removed a large mirror from its place and brought it out on deck — a circumstance that led us to believe that the Jap had passed the time talking to himself.

The author and Emerson Smith on board "Rio Mar" and, at the left, a typical jungle river steaming in the tropic heat

Without fuel there was a long down-river drift ahead of us. The anchor was so buried in sand that the cable parted before the hook would come up. The canoe was run out ahead with a tow line, and night and day we drifted. The canoe towed us clear whenever the current threatened to bear us down on one point of land or another.

Drifting under the hot sun converted the cabin into something indistinguishable from a well-conducted hell. To cure this condition, we rigged the tarpaulin over the cabin, giving our craft a very primitive look indeed — much as if she were wearing an umbrella.

(Continued on page 96)


COAMING 7/8" OAK, FASTENED TO CLAMPS WITH BRASS SCREWS
ROWING THWART 1/2" PINE, REMOVABLE
MOLDING 1" x 1/2" HALF ROUND OAK
CLAMPS 7/8" x 1 3/4" OAK FASTENED WITH 1 3/4" No 10 GALVD. SCREWS
TRUNK SIDES 7/8" W. PINE, SCREWED TO 1 1/2" x 1 1/2" OAK HEAD PIECES
SIDE FRAMES 7/8" x 1 3/4" OAK FASTENED TO BOTTOM FRAMES WITH 5/16" GALVD. BOLTS OR RIVETS
SEAM BATTENS 1 1/2" x 1/2" OAK, FASTENED TO FRAMES WITH 1 1/4" No 9 BRASS SCREWS
FLOORING — 1/2" x 2 3/4" W. PINE
PLANKING — 1/2" WHITE PINE FASTENED WITH 1 1/2" No 9 BRASS SCREWS IN FRAMES AND 7/8" IN SEAM BATTENS.
2 1/2" GALVD. BOAT NAILS
TRUNK SIDES FASTENED TO TRUNK LOGS WITH 2" No 10 GALVD. SCREWS
TRUNK LOGS 2 3/4" x 2 3/4" PINE FASTENED WITH 3/8" x 3 1/2" GALVD. CARRIAGE BOLTS
BOTTOM FRAMES — OAK, SIDED 7/8", MOLDED TO LEVEL FLOORING.
1 1/4" SLOT
BOTTOM 7/8" W. PINE, FASTENED WITH 2 1/2" GALVD. BOAT NAILS OR 2" No 10 GALVD. SCREWS.
TRANSOM 7/8" OAK WITH CAULKED SEAM.
7/8" x 1 3/4" OAK
7/8" x 2 1/2" OAK
1 1/2"
DETAIL OF TRANSOM
6 LBS LEAD
METHOD OF SECURING LEAD
CENTERBOARD 7/8" OAK
LEAD 4" x 6"
3/8" DIA. GALVD. ROD
1/2" BRASS PIN
DETAILS OF CENTERBOARD
BUILDING FLOOR
SECTION AT STA. 5 AFTER BULKHEAD
SECTION AT STA. 2 FORWARD BULKHEAD
HALLIARD LEAD
TILLER CHEEKS 1/2" OAK, FASTENED WITH 3/16" DIA. COPPER RIVETS
TILLER — 7/8" x 1 1/2" x 3'-3" OAK, TAPERED.
RUDDER 7/8" OAK TAPERED TO 1/2" AT AFTER EDGE.
1" x 3/32" BRASS STRAP, RIVETED THROUGH
HATCHES 1/2" PINE HATCH COAMINGS 3/4" x 3/4" PINE.
MAST STEP — OAK 2 1/2" x 10 3/4" x 7 1/2"
BREAST HOOK 1 3/4" x 5 1/2" x 10" OAK
BOTTOM PLAN
DECK PLAN
PROJECTION OF SIDE ONTO BUILDING FLOOR
STEM — 1 7/8" HACKMATAK KNEE
FALSE STEM 1 1/4" x 1 1/8" OAK, TO BE TRIMMED AFTER FASTENING
FACE OF STEM 3/8"
CHINE PIECES 7/8" x 1 3/4" OAK
DECK 1/2" x 5 1/2" PINE, COVERED WITH 6 OZ CANVAS LAID IN PAINT.
BEAMS 7/8" x 1 3/4" OAK CROWNED 2 1/2" IN 4'-6"
SAILING SKIFF 12'-0" x 4'-6"
PETERSON & WILLIAMS NAVAL ARCHITECTS MARBLEHEAD MASS.

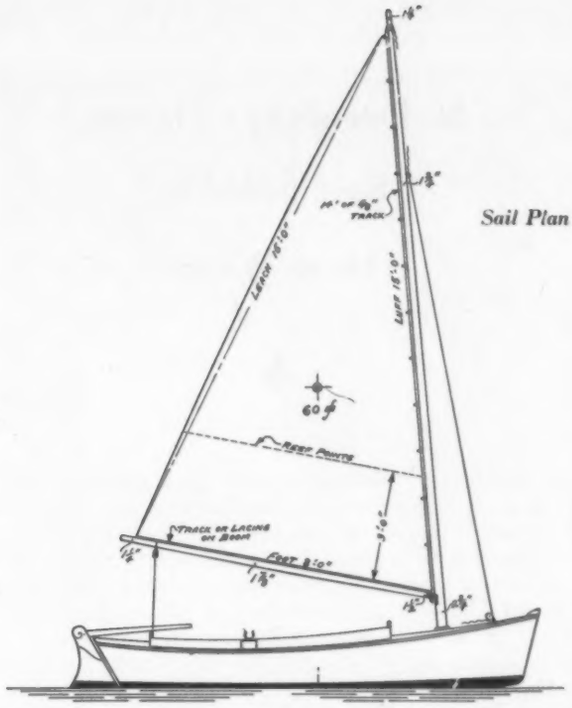
Construction plans of 12-foot sailing skiff by Peterson & Williams

A 12-Foot Sailing Skiff

A Small Boat that the Amateur Can Build at Small Cost

By

FENWICK C. WILLIAMS



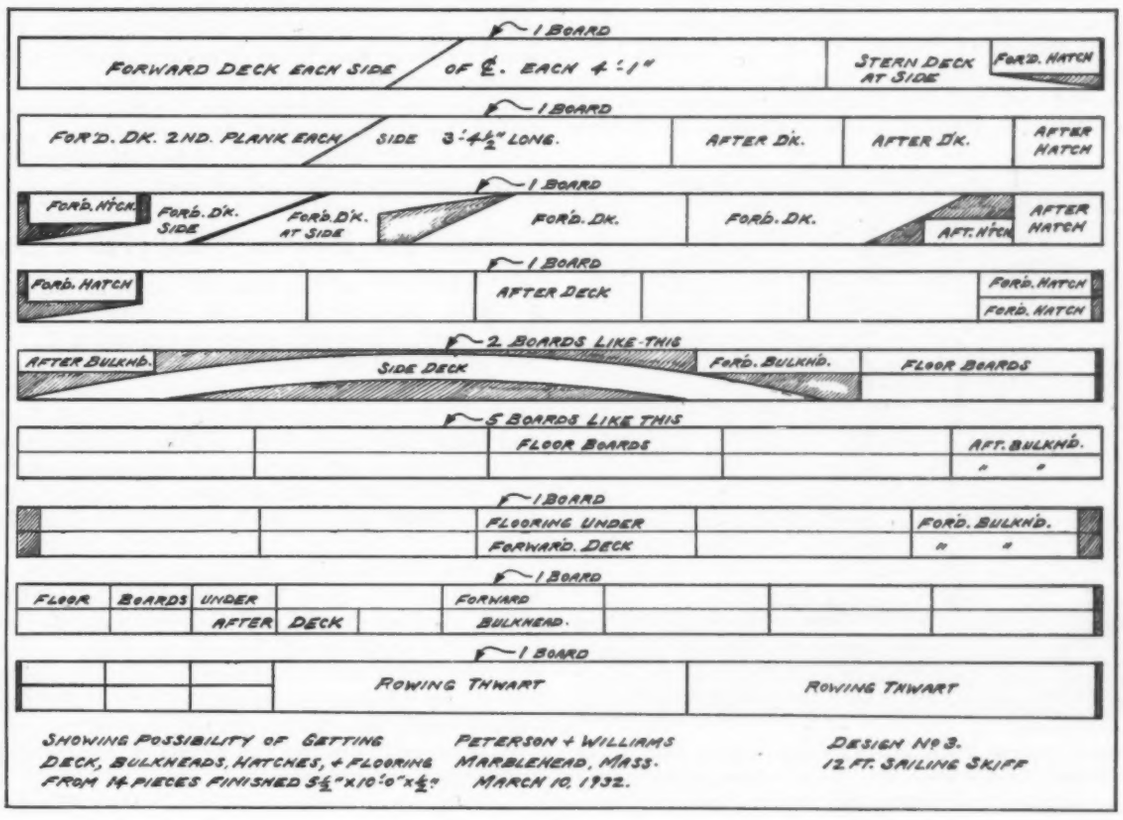
Sail Plan

THE little boat described in these notes was designed with the idea of producing the least expensive and easiest to build craft in which a boy in years, or spirit, or means — or all three together — could stow his duffle and go off on a camping cruise on sheltered waters.

Dry stowage space is provided under the decks so that a small stove, a shelter tent, blankets, food, and other essentials of such a cruise can be carried. Although primarily a sailing boat, she should not be difficult to row in smooth water, albeit a trifle heavy. Of course, provision can be made for the use of an outboard motor if one is so inclined.

The batten seam type of construction was chosen because of the saving in weight and the greater ease of bending the planks as compared with the wide and heavy side planks of the ordinary skiff. It is also easier for the "duffer" to make a tight seam than with the excellent and shapely, but skill-requiring lap-streak planking.

A somewhat unusual method of giving the hull measurements has been adopted, by means of which a four-sided mold can be made for each section after deducting the thickness of side and bottom planking from the given offsets. Three sides of each mold will be the side and bottom frames of the boat, and the fourth side will be a cleat which, when properly trued up and nailed to a level building floor, will give the correct set-up for putting on the planking. It will be noted that the bulkhead frames are halved together to give a flush surface on which to fasten the bulkheads, which can best be made up on the floor or bench before the frames are set up. *(Continued on page 82)*



St. Petersburg – Havana Race Sailed in Head Winds

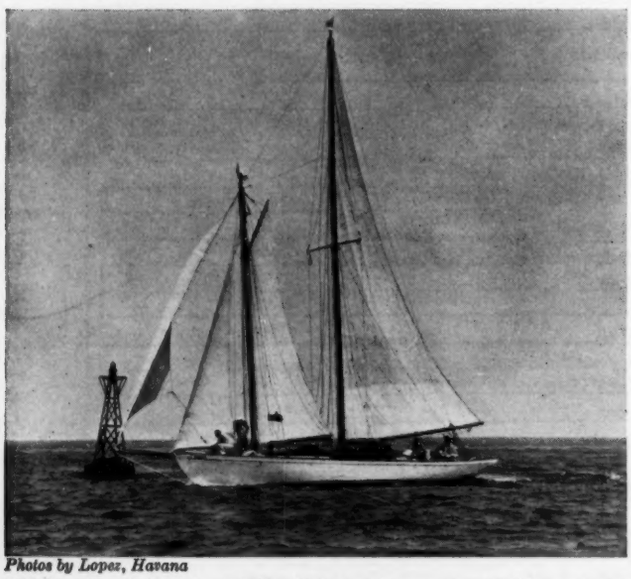
IN SPITE of vicious squalls that disabled several of their larger competitors the two smallest yachts in their respective classes won the race from St. Petersburg to Havana that ended early on April 5th — Houston Wall's schooner *Haligonian*, of Tampa, and William Allen's ketch *Gamecock* of Miami Beach. *Haligonian*, a 45-foot Roué schooner, repeated her 1930 performance by winning both the Machado Trophy, for the whole fleet, and the Class A trophy, and was the first yacht to cross the finish line under sail. *Gamecock*, a 30-footer designed by Alden, and the smallest of the eleven entries in the race, won in Class B.

The fleet, escorted by the Coast Guard cutter *Tuscarora*, got underway on the 284-mile passage on the afternoon of April 1st, with *Gamecock* leading over the starting line. Harkness Edwards's 85-foot schooner *Antonia*, of Pittsburgh, soon walked out into the lead, with *Haligonian* close behind her, as they stood down Tampa Bay and out into the Gulf. Others in the fleet were H. S. Denniston's 65-foot schooner *Sunshine*, Hugh Matheson's 55-foot ketch *Marmion*, G. A. Talcot's 63-foot yawl *Irondequoit*, in Class A; and Dr. A. C. Howe's 43-foot schooner *Lanakai*, Homer Agee's 40-foot yawl *Wawatam*, Gidge Gandy's 36-foot ketch *Cynosure*, Kent Curtis's 31-foot yawl *Marelen II*, F. W. Wagner's 32-foot yawl *Pieces of Eight*, and *Gamecock*.

Next day a radio message from the *Tuscarora* reported *Haligonian* in the lead 86 miles southwest of Tampa Bay and six miles ahead of the big *Antonia*, while *Gamecock* was only 25 miles out into the Gulf. On the third day they passed the halfway mark with *Haligonian* still out ahead, and then things broke loose. Three squalls in succession raised havoc in the fleet. *Antonia* put into Key West with her canvas in tatters. *Sunshine's* foremast went over the bow and she went on into Havana under power, as did *Marelen II*. Some concern was felt for *Cynosure* and *Irondequoit* for a day, but they turned up, not much the worse for wear. *Haligonian* led the fleet in past Morro Castle in spite of a blown-out ballooner and fisherman.

When the handicaps were figured *Haligonian* had taken the big prize, with *Marmion* second in Class A, and *Gamecock*, with the aid of her six-hour time allowance, had beaten the Class B fleet.

The little ketch "Gamecock," smallest of the eleven starters, won in Class B



Photos by Lopez, Havana

"Haligonian," Houston Wall's 45-foot schooner, won the Class A and Machado trophies in the recent St. Petersburg-Havana race, sailed in head winds

Motor Boat Show for World's Fair in Chicago

OPENING with a week of big showings, May 5th to 14th inclusive, the annual Chicago Motor Boat Show will later be extended to cover the five months of the Chicago World's Fair, closing November 1st. In view of the many yachtsmen from all over the country who will attend the Fair for the sail and motor boat races there, Hubbard Erickson, manager of the Motor Boat Mart, which is housed on the Navy Pier, expects an unprecedented attendance during the opening week and throughout the period of the Exposition.

In connection with the Motor Boat Mart on Navy Pier, there will be a special exhibit of motor yachts within the Fair grounds. These two shows will constitute the official yachting exhibits of the Fair.

In the General Exhibits Group building, adjoining the lagoon, an information bureau will be maintained. This office is designed for the convenience of the public, and will give any desired information concerning yacht building or equipment.

JACK WARING, JR.

Stoves and Fuels for the Cruiser

By

SAMUEL WETHERILL

Courtesy W. & J. Tiebout

A clean, neat and compact 3-burner alcohol stove in the galley of a small power cruiser

STEP into the kitchen of almost any modern home or apartment today, and you'll find it equipped with a gas range. Investigate the cooking appliance in an up-to-date yacht, and you may find it similarly equipped — or you may find any one of half a dozen or so other types ready to boil the coffee or roast the lamb — a coal stove, perhaps, or maybe some type of stove using a liquid fuel, such as alcohol, kerosene, or gasoline. The yachtsman has a choice of many. Some craft are better adapted to one type, some to another. And one man likes a certain type, the next man another kind. Fortunately, there are many kinds of stoves, and many kinds of fuels to choose from, so that whatever the requirements of the boat, or the preferences of the cook, the question may be answered satisfactorily.

There are three general types of fuel — solid, liquid, and gas. Each requires a different kind of stove. Let's take them up in this order, and see the advantages and disadvantages of the different fuels and the stoves which burn them.

We'll start off with the good old-fashioned coal stove, in which you may burn coal, coke, wood, or the new charcoal briquets. Despite the perfection of the newer types of stoves, the coal stove still has many staunch adherents, principally those who have used it and understand it. You can get any size — a one-hole affair for the single-handed cruiser, or a big range for a ship.

Among the advantages of the coal stove is the fact that it is real cooking equipment. In addition to cooking on top of it, you have a real oven for roasting, baking, or keeping things warm. Next, it keeps the boat cozily warm in chilly or damp weather as no other type of stove can. Again, it is a natural ventilating system, far more efficient than most people realize — for it is constantly sucking in fresh air from outside, and discharging the gases of combustion into the open air, and not into the cabin. Don't minimize this last point — ventilation is not an easy thing to accomplish in many craft, and much seasickness has been caused by smelly stoves of other types which burn up the good air in the cabin and replace it with the products of combustion, instead of shooting them up a stove pipe into the open air.

The disadvantages are that coal stoves are a bit bulky and heavy, and a bit dirty as to ashes. Also, in summer, they are apt to make the cabin of a small craft insufferably hot — the big mass of iron holds the heat several hours even after the fire is put out. And sometimes they do not draw well, a difficulty which is generally traceable to improper installation, or an improper head on the stove pipe. To overcome the latter trouble, make your stove pipe as high as possible — short pipes draw poorly. If the regular Liverpool head doesn't work well, get one of the new revolving types which whirl around in the lightest of airs and literally drag the smoke and heat out by means of a small concealed propeller. A little trouble and ingenuity will solve the draft problem.

Of course, you don't have to burn coal in your coal stove. Wood will do quite nicely for a quick fire if you want the fire for only a short time. Or charcoal is excellent for the same purpose. Or, better still, try some of those charcoal briquets — compressed charcoal, about the size of an egg — which light easily and quickly, give intense heat, last twice as long as charcoal, and leave little or no ash. It is claimed that you can even bank the fire for the night by spreading a thin layer of ash on it.

If you like a coal stove in general, but dislike the solid fuels for one or more reasons, then you can equip your stove with a kerosene burner, which fits into the fire box and gets its fuel under light pressure from a small auxiliary tank. Quick and easy to operate, they produce a hot fire. They are not much trouble to install, and you can take them out quickly any time you want to go back to solid fuel. Also, there is now on the market a burner for the same purpose which uses fuel oil. I haven't used it, but I am told that it is highly efficient.

Now come the liquid fuel stoves. In general, they are compact, light, fairly efficient, and quickly lighted or put out, and they do not hold the heat as does a coal stove — nor do they warm the boat up as well. As they are not equipped with a stove pipe, the gases of combustion foul the atmosphere inside the boat — a disagreeable feature in bad weather when hatches and ports are closed. You can have them with one, two or three burners, the small ones being easily portable. As a rule, the ovens supplied for these stoves are flimsy, makeshift affairs, good for warming purposes, but of little use for baking or roasting.

Kerosene is used in several types of stoves. The old pressure type, or Primus, with a "roarer" burner, gives an intense heat at little cost. The fuel orifices sometimes clog up, but modern burners, plus cleanliness, will pretty

A modern marine gas stove, with four burners and oven. The gas cylinder may be placed wherever space allows

Courtesy Topping Bros.

nearly eliminate this trouble. They are apt to be "smelly" unless kept decidedly clean. Another type is the so-called "blue flame wickless" burner, operating from a font, and sometimes a tank. They call them "wickless," but I don't know why, as they have what appears to be a cylindrical wick, operated in the same way as a wick in an oil lantern. They give good heat, burn steadily, but must be kept religiously clean for satisfactory operation. There is little fire hazard from kerosene, as it is not at all volatile as compared to alcohol or gasoline. One great disadvantage is its smell. If a bit of it is spilled, it spreads rapidly, and the odor remains almost indefinitely. Once kerosene is spilled into the bilge —

Next come the alcohol stoves. They are quick, clean, and give little trouble, and operate by gravity feed. One type of burner gives but a moderate amount of heat, while a newer type leaves little to be desired in this respect. New models of these stoves have three or more burners, and are equipped with ovens which look fairly practicable, though they are probably not as efficient as the ovens of coal stoves. Alcohol, being less volatile than gasoline, is therefore far safer. In addition, it is soluble in water, so that in case of fire, water may be used as an extinguishing agent.

Oil burners, using Diesel or other fuel oils, have recently been developed, and are said to be highly satisfactory, and cheap to operate, though a bit expensive in first cost. A small burner of this type may be used inside a coal stove, in a way similar to that in which a kerosene burner is employed. Or you may buy a complete range, of almost any size.

If you do not care for a coal stove, or one operating on liquid fuel, don't worry — you can have a gas range of any size, which operates in exactly the way the gas range operates at home. This gas, in liquid, compressed form, is stored in strong metal cylinders. Just turn it on — the liquid "gasifies" as soon as released, and with a touch of a match you have all the hot, clean heat you could ask for. Each cylinder holds enough gas for about 400 burner-hours.

The fire hazard with this bottled gas is somewhat greater than with some other fuels, but is usually traceable to faulty, leaky connections between tank and stove. Careful installation is the obvious answer. In addition, the gas makers have recently added a highly odorous ingredient to the gas, making even the smallest leak instantly noticeable.

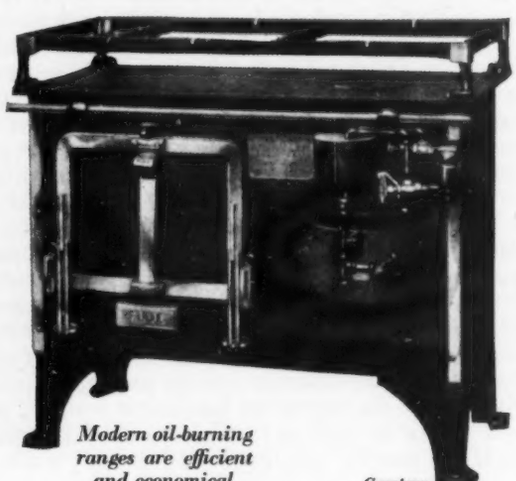
Owners of cruisers who like the heat and warmth of a coal stove in the "off" months, but dislike it in the hot summer months, can solve their problem by having, in addition to their coal stove, a liquid fuel stove with one or more burners which will fit right on top of the coal stove for summer use. Quick, easy meals in the hot summer time — a hot, lasting, warmth-giving coal fire when the weather gets chilly or damp. It's a fine, practicable combination.

In conclusion, a few words about the location of the galley may not be amiss. In small and moderate sized cruisers, some people prefer the galley aft, or amidships,

A small coal stove equipped with modern oil burner

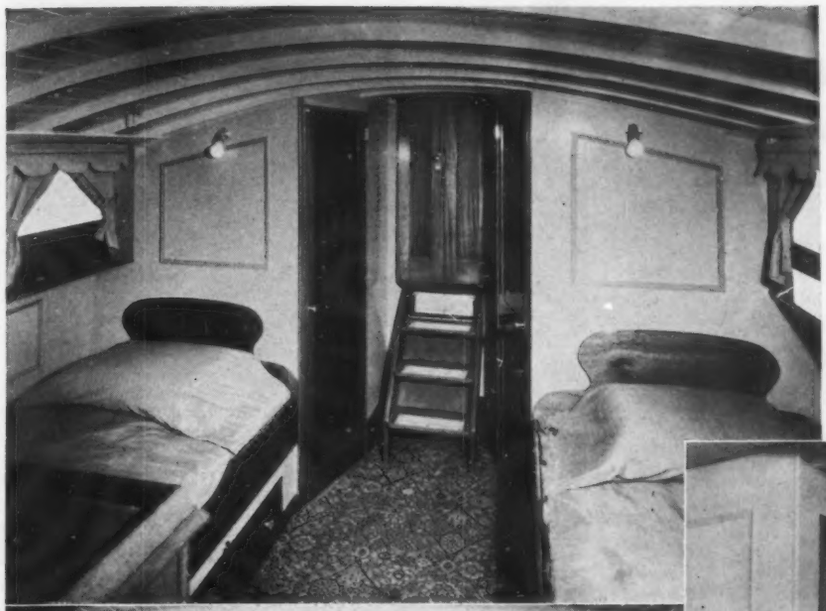
Courtesy Stamford Foundry Co.

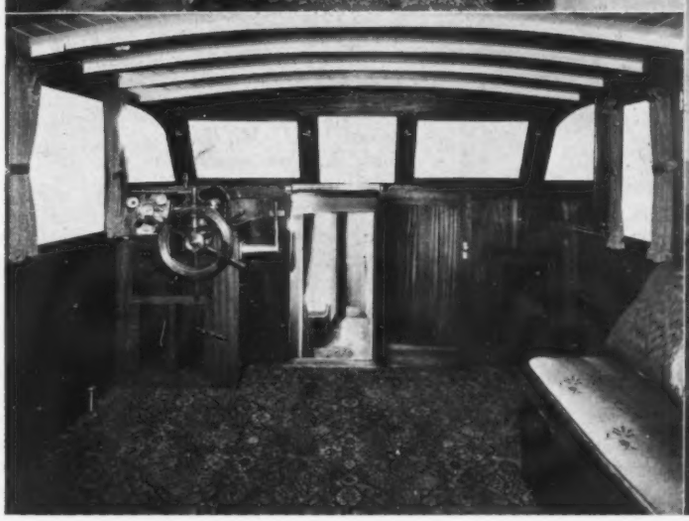
claiming that there is less motion for the cook to withstand, and that this hard-worked individual, with a job which few relish, will get better air, and that the odors of cooking will escape through the companion hatch and not spread throughout the boat. As far as the motion is concerned, well and good, except that little cooking is done underway, and I believe this benefit is generally greatly overestimated. In other ways, these claims are false, for the simple reason that the natural current of air in a small craft is from aft forward, and not from forward aft, regardless from what quarter the wind is coming. The heat and smell, therefore, go right through the boat, and do not go out the companionway because the breeze is coming *down* the companionway. All right in winter, when you want to warm up the boat, but not so good in summer. Now, with the galley forward, little or no heat or smell goes through the boat, and if there is a hatch over the cook's head, or thereabouts, he'll get all the cooling air he could ask for, while heat and smell are sucked out of a *reversed* hatch or ventilator forward. Try this way of ventilating a boat some time, and maybe you'll be surprised to find that your previous ideas on ventilation need an overhauling.



Modern oil-burning ranges are efficient and economical

Courtesy Elisha Webb & Son Co.





A Stock Diesel Cruiser

One of the 46-footers built by the Wheeler Shipyard and powered with a 100 h.p. Winton

M. Rosenfeld

This roomy, able, and trim-lined cruiser is one of the 1933 additions to the fleet of Wheeler Playmates and the use of Diesel power in her represents the present trend toward the application of Diesel motors in small modern cruisers which results in a reduction of operating costs and a marked increase in cruising radius. Spacious accommodations for a party of six and a paid hand are provided in the two cabins

Racing on Biscayne Bay

The Twentieth Annual Regatta Recognizes No Hard Times

Rosenfeld Photos

S. A. Vetter won the invitation race for Prigg stock boats at a speed of 26.961 m.p.h.

"Imp," a Gold Cup boat owned by J. M. Rutherford, had no trouble in winning the Free-for-all

WHEN it comes to participation in its favorite sport, power boating, southern Florida seems to be depression-proof. No matter what may be happening ashore in the way of bank holidays and general financial stringency, the annual spring races off Alton Beach, opposite Miami, go on just the same. This year the regatta saw three days of racing, and while the fleet of fast boats was not as large as in some of the pre-depression years, the competition was as keen and the races as hard fought as they usually are at this popular winter resort.

The racing started this year on March 15th, with the annual event for the Lipton Cup for sailing yachts, the course being on the open Atlantic, outside Miami Beach, twelve miles in length. Out of ten entries, seven showed up at the starting line. The 36-foot centerboard ketch *Melody*, with a big sprit topsail set above her jib-headed mainsail, ran away from the larger boats in the race, and not only finished first in 4 hours, 4 minutes and 35 seconds elapsed time, but was easily first on corrected time. *Melody* was sailed by her owner, Wirth Munroe, of the Biscayne Bay Yacht Club. The yacht was designed 27 years ago, by Com. R. M. Munroe. Second place went to *Water Witch*, Theodore C. Wood, Jr., Shore Acres Yacht Club, Mamaroneck, N. Y., and third place to Harkness Edwards' *Antonia*, N. Y. Y. C. *Swordfish* and *Nona* withdrew on account of the light wind, after completing one lap of the course. *Marchioness*, owned by D. H. Conklin, of Palm Beach, which needed only one more "win" to take the cup permanently, did not start, although she was entered.

The chief event of the power boat racing, March 17–18, was the race for the Col. Green Trophy, most coveted of outboard prizes. There were seven starters in this event, and the winner turned up in Walter Everett, from Tulsa, Oklahoma, a veteran outboard pilot who nearly swept the boards in the first day's racing, winning four straight events, two in Class B and two in the two heats of the Green Trophy race, for unlimited outboards. The water was choppy the first day and the little boats bounced about, hitting the high spots, so that record time was out of the question. But at that, Everett, in 0–22, turned in a lap of the course at the speed of 44.935 m.p.h. This speed was only exceeded the first day by the Gold Cup boat *Imp*, which J. M. Rutherford drove in the Free-for-all at 44.972 m.p.h. over the five-mile course to win that event rather easily.

The last day of the regatta saw only four boats out for the

Walter Everett won the Col. Green Trophy for outboards in fast time but by a narrow margin

Horace Tennes, of Chicago, took the last heat of the Col. Green race, and was only a few points behind the winner

third and deciding heat for the Col. Green Trophy. All that Walter Everett had to do to take the trophy, after his two winning heats the day before, was to finish the race, and this is just what he did, and no more. But this was not due to any desire on the part of the Oklahoma boy to play safe. He just could not help himself, and he was lucky to win the "mug" by the narrow margin of four points from Horace Tennes, of Chicago, who won the day's heat in the record time of 44.946 m.p.h. for the course. At the start of the heat Tennes jumped into the lead and drove a fine race. Everett had to "take his wash" all the way, and on the back stretch the Oklahoman's motor began to sputter and finally stopped. After losing a lap Everett got started again and limped in a bad last, but by so doing gathered a total of 1089 points, to 1085 for Tennes.

The Class F outboard event went to Cal Meloon of Orlando, Fla., who took the second heat after placing second in the first. Everett seemed to be playing in hard luck this day, for he was thrown in the first heat and skidded on his back over many feet of water before he came to rest. However, he managed to take both heats of the Class C event in fast time, and the major share of prizes for the two days of outboard racing.

There were several other closely contested events. In the invitation race for Prigg stock boats, which brought out the largest fleet in any class, S. A. Vetter, driving No. 17, with a Kermath-Farr 6-cylinder motor, won both heats in fast time, 26.961 m.p.h. being his best speed for the course. The same boat also placed second in the 325 cubic inches displacement class, won by Mrs. Paul Prigg.

In the Race of Nations, also run in Prigg stock runabouts, Commander T. A. Rainey, representing England, won the first heat, and Captain H. Holeself, Germany, took the second, only to lose to the British driver on total points.

Jack Rutherford, in *Imp*, again won the Grand Free-for-all, with E. R. Jones' *Chris-Craft* second. Rutherford also won the two larger runabout events in *Why Not*. To wind up the twentieth annual Biscayne Bay Regatta, Roy Savary's *Panacea* won the Express Cruiser race, with J. B. McIvar second.

The Month in Yachting

On to Gibson Island

OF THE many features which influence a really successful ocean race, two stand out as of primary importance. First, the course must be of such a nature as to give the craft a real tryout. Second, the port of destination must be attractive to the visiting yachtsmen. With either of these features lacking, the race is very apt to be a "washout." As the race to Gibson Island, in the upper reaches of charming Chesapeake Bay, has both an excellent course and an excellent "finish," yachtsmen can look forward with real pleasure to the event this year, which starts on June 24th from Sarah's Ledge, off New London.

Starting with a favorable tide, the racers make for historic Montauk Point, which they should round easily before the current turns against them. Then comes a real leg down the Jersey and Virginia beaches to Chesapeake Lightship — generally a beat to windward in the prevailing southerly breezes. At the turning mark off the entrance to the Capes of the Chesapeake, the boats square away for a reach or a run up Chesapeake Bay, past Norfolk, Old Point Comfort and Annapolis, and finally to the finish line off Gibson Island, halfway between Annapolis and Baltimore. Both celestial and 'longshore navigation are necessary in this 475-mile event, and efficiency in these arts is as necessary to a competitor who wants to win as making the boat show her best paces through the water by means of hard driving and skilful handling of light sails.

Gibson Island, Maryland, and the entrance to the Magothy River, the objective of the long distance race of the Gibson Island Club, which starts from New London, June 24th

Photo, Passmore, San Diego

The husky ketch "Vileehi," owned by H. T. Horton, which recently completed a 20-months' voyage around the world

Once across the finish line, with the strain of racing over, the visiting crews find themselves in a yachtsman's paradise. For Gibson Island is a private island, owned by the Gibson Island Club, a delightful homelike community of 75 residences and 625 club members. The climate is wonderful. Of attractive scenery there is an abundance. Two yacht harbors are available. Club launches whisk you from yacht to shore. And the attractive clubhouse, with excellent dining facilities and sleeping accommodations, awaits the weary crews and their friends. Anyone who has been to Gibson Island needs no introduction to the Hospitality Committee, which is on the job day and night, from the time a yacht finishes until she leaves for her home port.

Non-contestants wishing to see the finish may easily reach the island by bus or motor car from Baltimore, some 24 miles away, and may enjoy golf, tennis, swimming, and excellent fishing and crabbing. One of the most attractive cruising grounds in the country beckons to the yachtsman once the race festivities have been concluded. A jaunt through the Delaware and Chesapeake Canal, down the Delaware River, and a slide "down wind" along the Jersey coast brings Eastern yachtsmen home in an easy and enjoyable cruise.

Full information about the race conditions, which have already been published in YACHTING, may be secured from C. Ellis Ellicott, Jr., Chairman, Rules Committee, 1611 Bush St., Baltimore, Md.

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"Vileehi" Completes World Cruise

"WELL — we sailed around the world. I guess that's about all there is to the story."

The jaws of three waterfront reporters dropped in unison. Here was a man who had been gone for twenty months, who had visited the coral sands of the South Seas, the sheltered anchorage of Cape Town; a man who had navigated his own yacht around the globe, and was content to let it go with "We sailed around the world."

The man of few words was H. T. Horton. The port was San Diego, and the yacht was Horton's 80-foot auxiliary ketch *Vileehi*. Horton left San Diego June 20th, 1931, accompanied by Mrs. Horton, Miss Horton and a crew of five men headed by Capt. Donald McCuish, a veteran of the Grand Banks. The first leg of the voyage was a long one — some 2500 miles, to Hiva Oa, in the Marquesas group. Horton was determined to see the South Seas, so stops were made at Papeete, Rarotonga, Penrhyn, Mana Hiki, Pago Pago, Apia and Suva.

With the Fijis astern, *Vileehi* headed for Auckland. Then visits to Russell, Wellington, Timaru and Bluff were in order. After taking in the New Zealand Sounds, the yacht pushed on to Sydney, to Cairns, and past Thursday Island to ports of Timor, Bali and Java. Working steadily to the westward, *Vileehi* made Rodriguez Island, and then took the long hop to Cape Town.

It was on this part of the voyage that the yacht ran into the only bad blow of the trip, although there were many minor ones. About 150 miles south of Madagascar, she was hove to for 15 hours under a storm trysail. But there was no damage, and when the gale blew itself out, *Vileehi* spread her canvas and went on about her business.

From hospitable Cape Town the voyagers shaped a course for the little dot on the chart made famous as the involuntary retreat of Napoleon — the island of St. Helena. Water and stores were replenished, and they were off for the longest single run of the trip, 3750 miles to the Barbadoes. *Vileehi* put this behind her in just 21 days, an average of slightly over 178 miles per day. On to St. Lucia, Aruba and the Panama Canal went the yacht, and then the 2800-mile last leg, back to San Diego.

When the yacht came up to the customs landing at San Diego, there was little about her to indicate such a long jaunt. As to the *Vileehi* herself, she was designed by Edson B. Schock and was built at the plant of the San Diego Marine Construction company. Framing is of oak, while topsides, deck and bright-work are of teak. A 115-horsepower Sterling engine, operating through a reduction gear, is the auxiliary power plant. *Vileehi's* sails were never in a sail loft from the day they were finished, although they have driven her, counting the world cruise and shorter runs to Honolulu and to Mazatlan, some 45,000 miles.

JERRY MACMULLEN

The new Sportsman model Fairform Flyer. A twin-screw boat, powered with two Kermati. 4-45 engines, she steps along at 30 m.p.h. at full throttle, and does better than 20 miles' cruising speed at only half load on the engine

E. Levick

William Butler Duncan

William Butler Duncan

IT WAS through his connection with the defense of the America's Cup over a period of nearly forty years that W. Butler Duncan, who died on March 30th, was best known to yachtsmen on both sides of the Atlantic. Always keenly interested in yachting, Mr. Duncan's connection with America's Cup affairs started in 1893 when he sailed as one of the afterguard of *Vigilant* in her races against *Valkyrie*, and only ended after the race of 1930, when he was chairman of the Selection Committee which chose *Enterprise* to defend against Sir Thomas Lipton's *Shamrock V*. In 1899 he was in charge of the *Defender* during her trial races with the new *Columbia*, and he sailed on the latter in the Cup series when she was selected to defend the Cup. Two years later, when *Constitution* was built to meet the next challenge, Mr. Duncan was in charge of her throughout the season while she was sailing against *Columbia* for the honor of defending. But the older yacht won and was chosen to meet *Shamrock II*, Butler Duncan sailing on her as the N. Y. Y. C. representative. In 1903 he sailed as one of the afterguard on *Reliance*, and when the fourth Lipton challenge was hanging fire during the World War, Mr. Duncan sailed the Cup candidate *Vanitie*, in 1915, with Cornelius Vanderbilt. The experience gained in this long activity in America's Cup racing made his participation invaluable in all matters concerning the defense of the famous trophy, and in 1914 and 1920 he served as a member of the America's Cup Committee.

Although Captain Duncan remained in the Navy for two years after graduating from the Naval Academy at Annapolis in 1882, during which he served on the old *Vandalia*, he retired while still a young man and satisfied his keen interest in the sea and ships through yachting. Joining the New York Yacht Club in 1889, he served that organization in many capacities, including the holding of office as rear and vice commodore. He was on the membership committee for eleven years and served on several rules committees at various times. Some of the yachts he owned during his long participation in the sport were the famous cutter *Huron*, the New York "Thirty" *Dahinda*, the Sound schooner *Vandalia* and the *Javelin*.

In 1891 Captain Duncan was one of the organizers of the 1st Battalion of the New York Naval Militia and was the commanding officer of one of its divisions. He saw active service in the Spanish American War on the U.S.S. *Yankee*, and during the World War he served as a Commander in the Naval Reserve Force.

Butler Duncan was 70 years of age at the time of his death, which occurred after an illness of some six weeks. He was buried at sea off the New Jersey coast from the destroyer *Cole*, with full naval honors. Throughout most of his life a dominant figure in yachting, and in the affairs of the club for which he worked so hard, his passing will mean a real loss to the sport. With the death within the year of C. Oliver Iselin and Lewis Cass Ledyard, three stalwart figures who did much to keep the most famous yacht racing trophy in this country have passed away. All of them lived through a great era in American yachting, an era in which the large sailing yacht was supreme. Yet Butler Duncan was equally at home in a small yacht and much of his racing was done in boats no larger than a "Thirty." His place in the sport will be hard to fill.

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Navigators, Take Heart!

Editor, YACHTING:

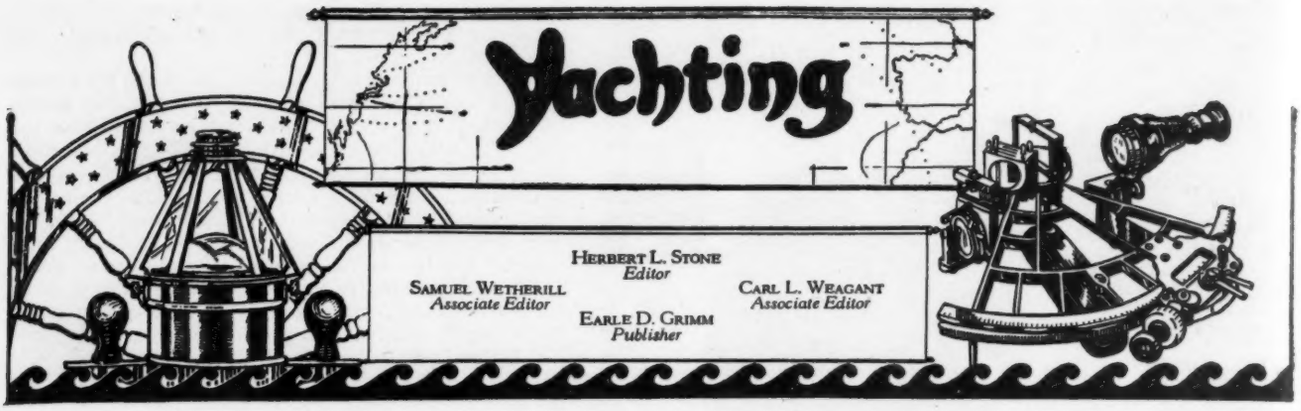
AS I read Alfred Loomis' article in the April number of YACHTING big salt tears dropped one by one upon my new blotter as I realized that it spelled the doom of ocean yacht racing. After all the hardships suffered by the navigator and recounted by Alf, who could be so hardy as ever again to assume that position? And then, like a flash, the answer to this problem came into my mind. Perhaps your readers would be interested in hearing the solution.

If the owner of a boat in an ocean race also commands it and navigates it, as far as I know, no bad landfalls or other navigational difficulties ever arise. I am pretty sure I am right in this as I have checked it with Bobby Somerset and Olin Stephens.

With the possibility of ocean racing again restored, I dashed off a letter to the shipyard, asking them to put my boat in commission, but not to overlook plugging the drain holes, which I hear was done when a certain famous schooner was commissioned last winter. GEORGE E. ROOSEVELT.

M. Rosenfeld

"Melody," Wirth Munroe's ketch which won the race for the Lipton Cup over an ocean course off Miami, in March



EDITORIAL

Speaking of Yacht Bargains

THE power boat, cruiser and yacht, in these days of sagging prices, is just another commodity after all, subject to the immutable law of supply and demand. Hysteria to sell, of course, ofttimes presents a bargain, and the bearish bargain hunter bears the price down still further. So we have today in the pleasure boat market a rather interesting picture. Let's analyze it.

Back in 1929, when the stock market hit the toboggan slide — when paper profits vanished over night, and "I'm broke" became a byword of the Street — it was then or shortly after that the used boat market became so cluttered that brokers were unable to keep pace with the listings. At first the asking figures were up, but, as economic conditions continued the downward trend, the prices of used boats trailed along in the same direction. Some fine cruisers and yachts, comparatively young, well-built and powered, were purchased at ridiculously low figures. These may be recorded as forced sales.

Those who, by virtue of a tenacious spirit, turned a deaf ear to the low price purveyor held on, and, if you please, find themselves with an investment far more tangible than some paper certificates in their lock box. Those men will follow their desires in due course, when our economic ills are cured, and pleasurable pursuits may again be enjoyed.

With the return of confidence in general business, comes the disposition on the part of owners either to withdraw their boats from the market or to increase the asking price. Then, too, the fact that few new boats (other than stock) have been built since 1929, narrows down the market — to the boat brokers, distressingly so. Of course, it will take time to offset this wild-rumor-price, at which this or that yacht could have been purchased. On the other hand, it is obvious that the supply cannot possibly meet the demand. The absorption of "forced sale" boats, together with the fact that the normal building of new boats (other than stock) has been suspended for the past three years, supports that statement. As a result, prices have steadied at a fair market value and the ridiculous prices of the past are over.

So the picture stands — the bears have had their day. Many yachts and cruisers have new owners — and may they be yachtsmen and hold true to the course. The enthusiasm for yachting is inborn. Temporary setbacks are all in the day's work, but you will find, this summer, many of the well-known cruisers and yachts at all yachting centers.

Alfred F. Masury

THE pity of such accidents as the one that destroyed the Navy dirigible *Akron* in the early hours of April 4th is not the loss of the ship or the shattering of the hopes around which she was built, but the taking of 73 lives that can never be replaced. To many yachtsmen the loss of the big ship came as a personal tragedy because she carried down with her one of their number who was making the trip, not in the line of duty, but because of his interest in the possibilities of lighter than air craft.

Alfred F. Masury was known to so many yachtsmen, particularly to those who have sailed in the Bermuda and other ocean races of the past ten years, that his death will come as a keen loss. An engineer of unusual ability, his interests lay in yachting and in the development of internal combustion power plants. In his fast 70-foot cruiser *L'Apache*, he not only cruised extensively, but incorporated in her several improvements for the elimination of vibration, and for smoother running qualities. Since the Bermuda Race was revived some ten years ago, Captain Masury always placed his yacht at the disposal of the race committee to be used as the committee boat, and it was from her that the fleet in most of these races were sent away on the long journey. He was on the race committee of the Cruising Club of America for many years.

Generous to a degree, he always made his own convenience subservient to the wishes of those who sailed with him, and his many friends were always assured of a hearty welcome aboard his yacht. When Thomas Fleming Day died a few years ago, it was *L'Apache* which was proffered to take his ashes out to sea and scatter them where the ships of all the world, which the "Old Man" loved so well, would come and go over them. It was this simple ceremony that decided Alfred Masury to request the same sort of burial when his own end should come. His wish was carried out and he was buried at sea on April 13th, from the Coast Guard cutter *Champlain*.

Alfred Masury had made a number of trips in dirigibles prior to the ill-fated one in the *Akron*. A number of years ago he was on the *Graf Zeppelin* when she broke down and was driven out over the Mediterranean, finally being brought to earth under one engine in southern France. But even this experience could not keep him ashore, any more than a spell of bad weather or a "hard chance" at sea could make him forego his yacht. He was too young to be spared, being only fifty years of age, and his place in yachting and in the hearts of his friends and family will be hard to fill.

IN THE WORLD OF YACHTING

HUBERT SCOTT-PAINE

HERE is the latest challenger for the emblem that represents international speed supremacy upon the water, the British International Trophy, more frequently referred to as the Harmsworth Cup, after the donor. Hubert Scott-Paine is, perhaps, England's leading speed boat driver, a close student of speed boat development and a noted designer of fast and radical hulls. That he should challenge for a race this year at Detroit is most gratifying, and if the event materializes we should be assured of valiant effort to recapture the laurels held since 1920 by Mr. Wood, of Detroit.

Hubert Scott-Paine is no stranger in American speed boat racing circles. He was here in 1929 with Major Sir Henry Segrave, whose first "Miss England" he designed. He raced the following year at Detroit in a radical 5½-litre boat and captured the "Detroit News" Trophy, which he took to England with him. He is a skilful driver and has had long experience in racing, so that, with the entire management of the attempt centered in his hands, we should see the best organized bid for the famous trophy that Great Britain has ever made. No details of his proposed boat have been revealed, but for power he will rely on a supercharged Napier Lion motor of the Schneider Trophy type.

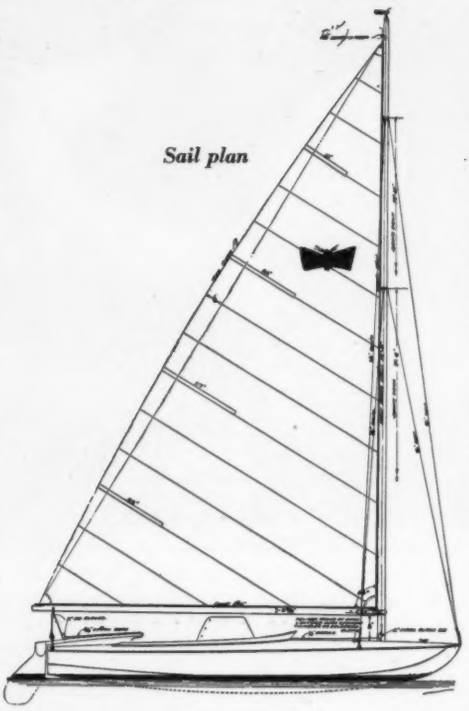
Twenty years ago, in 1913, when racing in the British 21-foot class at Monaco, Hubert Scott-Paine became fired with two major ambitions; one was to win the Schneider Trophy for air supremacy; the other, to bring home the British International Trophy. The first of these objectives he achieved in 1922, after the Italians needed only one more victory to retain the cup permanently. Will his other ambition be gratified this year? The task before him is difficult, but in experience and knowledge he is well qualified to bring it to a successful conclusion.

The Moth Class

A YEAR or so ago Captain Joel Van Sant designed and built for himself a small sailboat for use on the very restricted waterways near Atlantic City, N. J. Three friends followed suit. A race or two was held — the news spread — other enthusiastic sailors designed and built boats. And now we have the National Moth Class Association, with upwards of one hundred 11-foot boats in existence, racing summer and winter in fleets organized in such localities as Atlantic City, N. J., Elizabeth City, N. C., Daytona Beach, Coconut Grove, Florida, and other ports.

The idea behind the class was to get a small, cheap, easy-to-build craft, which could be both designed and built by amateurs, and which would be suitable for use on small, restricted, or shoal bodies of water where larger sailing craft would not be adapted. The idea "caught on" like wildfire. A match race between two boats on the Pasquotank River, near Elizabeth City, North Carolina, was the only spark needed to get a fleet started there. A couple of Moths racing in Florida started the ball rolling in the Sunny South, and now several large fleets are racing regularly along the Florida Coast.

The large majority of Moths have been both designed and built by amateurs, though amateur and professional designers and builders, sailmakers and skippers all compete together. The boats are of various shapes and types, yet so far no boat has appeared which can claim to be the fastest under all conditions of wind and weather.



Sail plan

The Moths are not one-design, but are built under an extremely simple set of restrictions. Here are the principal ones:

Hull. Not more than 11 feet over all. One centerboard. One rudder.

Design and Construction. No restrictions.

Spars. One mast. Height above deck must not exceed 16 feet 6 inches. Diameter must not exceed 3½ inches. One boom. Not more than 9 feet 6 inches long, nor more than 3 inches diameter.

Sail. One sail. Area not to exceed 65 sq. ft.

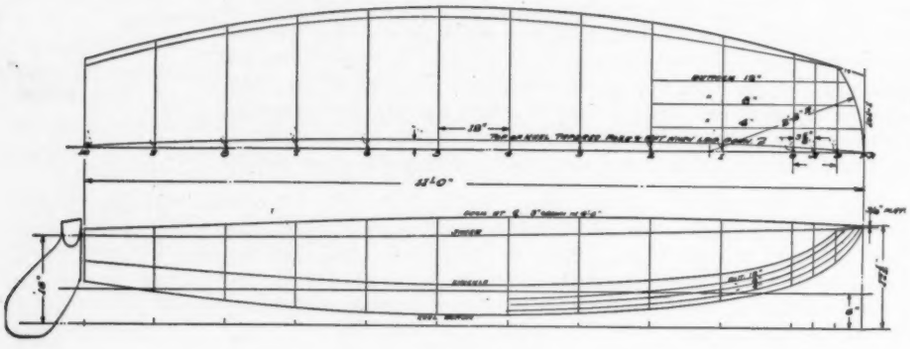
As photographs taken in various localities show, most of the Moths are chine craft, some with sharp bows and long water lines, and some with blunt overhangs or "snouts." The construction may be anything which the designer or builder wishes. The simplicity of design and construction has resulted in many home-built boats, which have proved cheap to build, and as fast as the professional job.

The interest in these little boats spread so rapidly that three clubs got together and formed the National Moth Boat Association in order to promote the best interests of the class and stimulate interclub and intersectional racing. For 1933, three national regattas will be held, one in New Jersey waters in August, one at Elizabeth City, N. C., in October, and the third in Florida in March. Moths may be readily transported on trailers, hoisted on davits, or pulled up on a float or on shore.

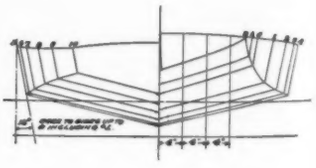
The plan of a Moth boat on this page is from the board of Thomas D. Bowes, M.E., of Philadelphia, and shows a craft of the following dimensions: l.o.a. 11′; l.w.l. 8′10″; beam, 4′; draft, without board, 4″. She is distinctly of the scow type, with square stern and rounded, blunt bow. The sections show a V-bottom with moderate deadrise and no crown to the bottom such as is seen in some models of chine boats. The beam is moderate, and it is evident that she will have very long sailing lines when heeled to her work. The hull design lends itself to amateur construction quite nicely. The rig is a simple jib-header, with boom extending only an inch or so beyond the transom.

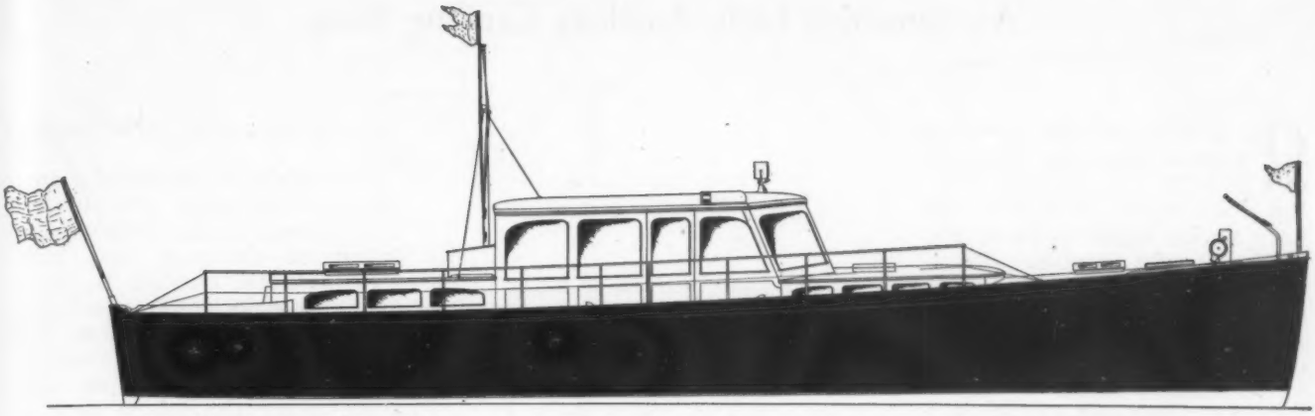
In size, the Moths are a close approach to the Frostbite dinghies. They are 6 inches shorter, 6 inches or so narrower, lower in freeboard, and have about 7 square feet less sail. Some of the Moth owners feel certain that they are faster than the dinks, but dink owners and designers do not agree with them. A team match between Moths and dinks is the logical answer.

Full information about Moths may be secured by writing to the National Moth Class Association, P. O. Box 174, Elizabeth City, North Carolina.



Lines and body plan of Moth boat designed by Thomas D. Bowes





Outboard profile of the 51-foot power cruiser designed by Sparkman & Stephens for a Connecticut yachtsman

Speed, Comfort, and Rough Water Ability

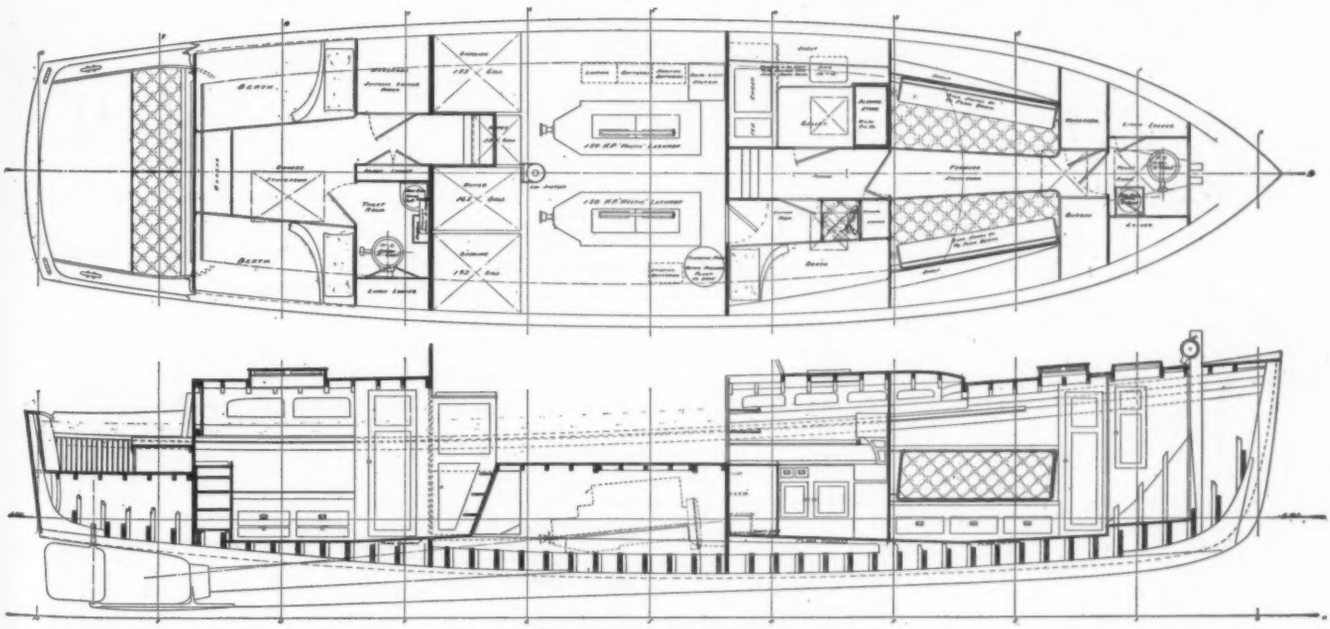
NEARING completion at Lemos Brothers' yard, Riverside, Rhode Island, is a husky, attractive power cruiser of somewhat different model and arrangement than is found in the average craft of this size. She was planned for a Connecticut yachtsman by Sparkman & Stephens with the idea of producing a rugged, roomy, and comfortable boat which would have a good turn of speed, and also "keep going" at a good clip in fairly rough water. To this end she was given good beam and a fairly deep-bodied section, with somewhat heavier construction than is usual. The dimensions are: l.o.a. 51′; l.w.l. 49′ 6″; beam, 12′ 6″; draft, 3′ 8″.

The designers believe that the continuous sheer adds both to the appearance and strength of the hull. The construction is unusually strong, with heavy oak keel and frames, Philippine mahogany planking, and teak decks. Fastenings and hardware are of bronze.

The power plant consists of a pair of 150 h.p. Mystic model Lathrop motors, which are expected to give a speed of 18 miles an hour. A 32-volt Delco generating set will provide current for electric lighting, and a Fairbanks-Morse water pressure set will be hooked up to the 385-gallon water tank.

The topside arrangement provides an unusual amount of deck room, the sides of the trunk cabin and deckhouse being set well in from the rail. The sunken deckhouse is over the 'midships motor compartment, and contains the controls forward and a large transom and buffet aft. A good-sized sunken cockpit is found aft.

Accommodations below decks show berths for six in the owner's party and one paid hand. The galley is amidships, where it is accessible from the deckhouse and from either stateroom. The crew's cabin, with toilet and folding lavatory, is across from the galley, and has direct access to the engine compartment. Aft is a fine double stateroom, with large locker and bureau, and connecting toilet room. Forward is a second double stateroom, with berths for four people, and a second connecting toilet room. Locker and stowage space has been well taken care of throughout the boat, while particular attention has been paid to proper ventilation of living quarters, galley, engine room and bilges.

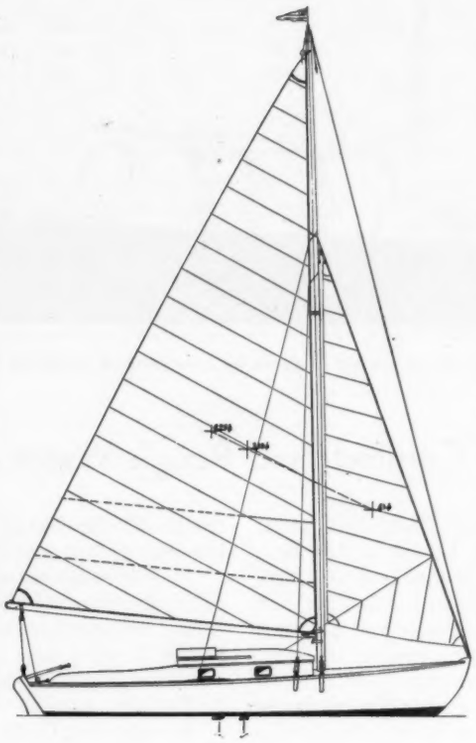


Cabin plan and inboard profile of the 51-footer

An Attractive Little Auxiliary Cruising Sloop

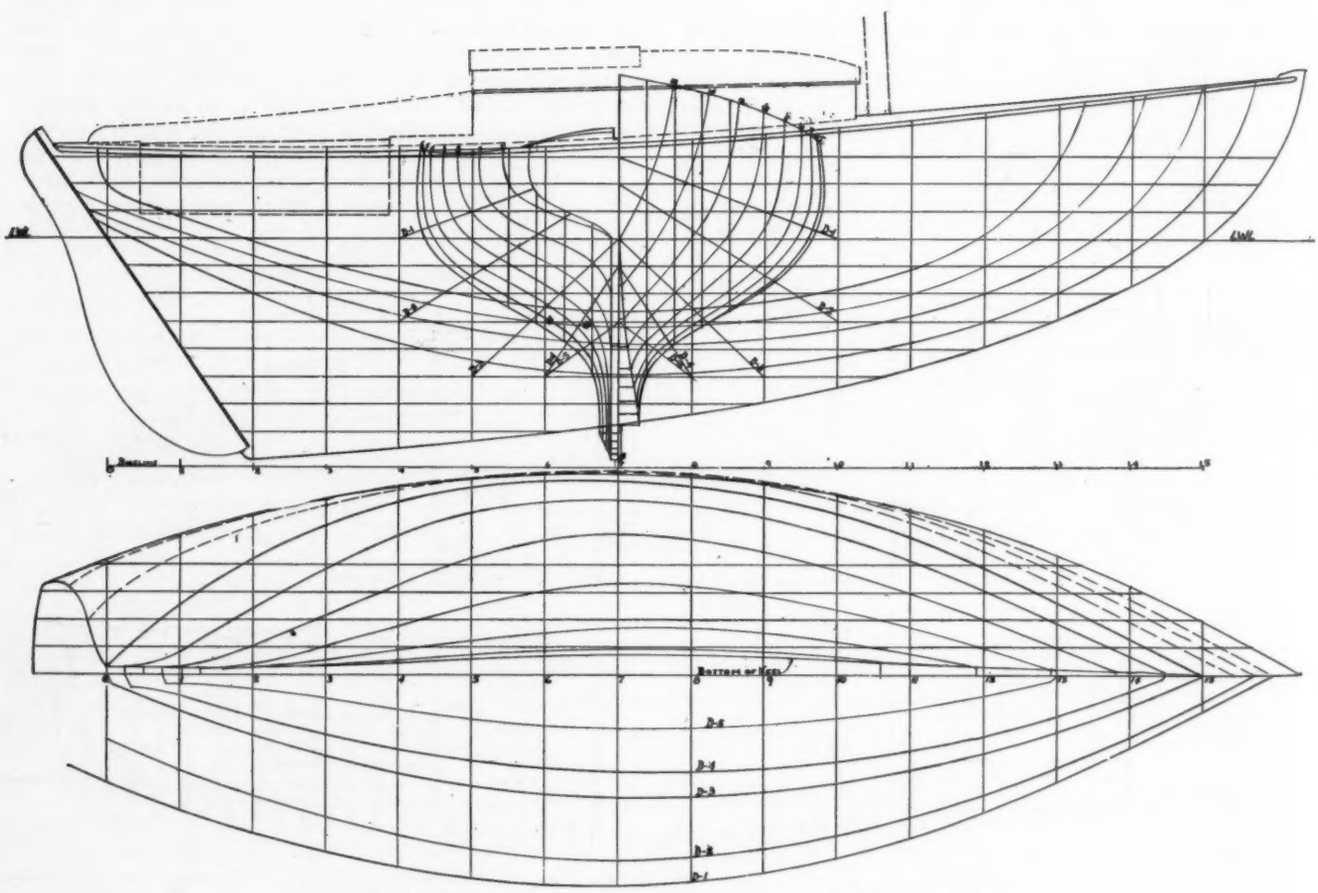
ON THIS and the following page we reproduce the plans of a little 23-foot auxiliary cruising sloop which we believe will have a wide appeal to those who are looking for an able, comfortable, smart-sailing craft which may be built for a very reasonable price. She is from the board of a newcomer, George W. Grass, of Milwaukee, and is of the following dimensions: l.o.a. 23′; l.w.l. 20′; beam, 7′6″; draft, 4′; sail area, 288 sq. ft.

The lines show a hull of excellent dimensions, with short ends, moderate sheer, firm but sweetly-turned bilges, and a long, easy keel profile. Plenty of stability is indicated in the body plan, there is ample lateral plane, entrance and exit are fine, and diagonals indicate first-class sailing qualities. The jib-headed rig is simple and effective, with mainsail equipped with roller reefing gear.

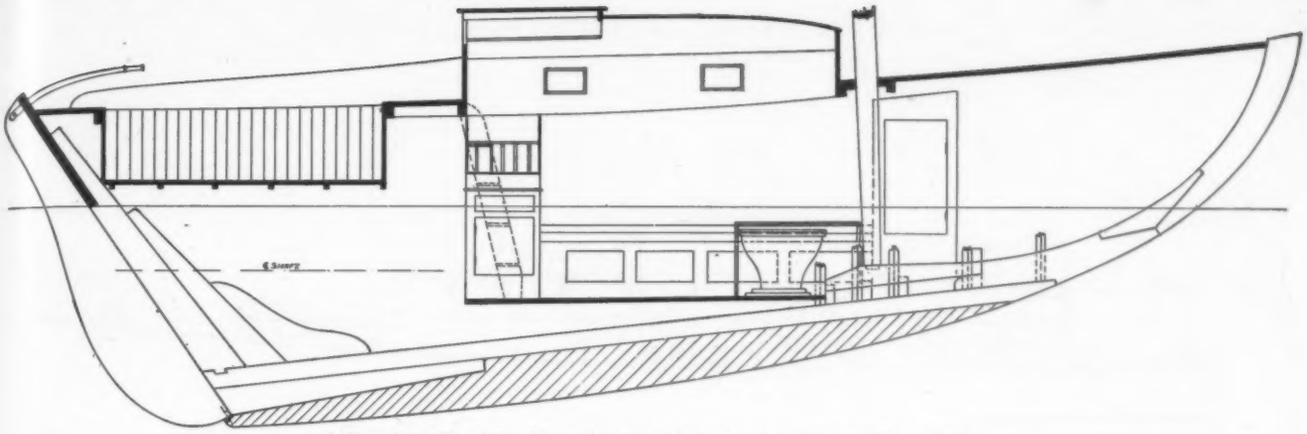


Sail plan

The cabin is laid out for two people, with toilet between the two transom berths. Galley space is aft on the port side, with clothes locker forward to port, and oilskin locker on starboard side aft. Excellent space for stowage is found in the forepeak. The cockpit is of ample size, while under the bridge deck is plenty of room for the installation of a small 2-cylinder motor with which she should do 5 to 6 miles an hour. Steering will be by means of a tiller, as the installation of a wheel would be more expensive, and troublesome to accomplish with the outboard rudder. She is a shippy looking craft, and should make an excellent cruiser for use on semi-protected bodies of water, fresh or salt. The cost of building and upkeep should be moderate.



Lines and body plan of the 23-foot cruising sloop designed by George W. Grass



Inboard profile of the Grass-designed sloop described on preceding page

A 25-Foot Shoal Draft Cruising Sloop

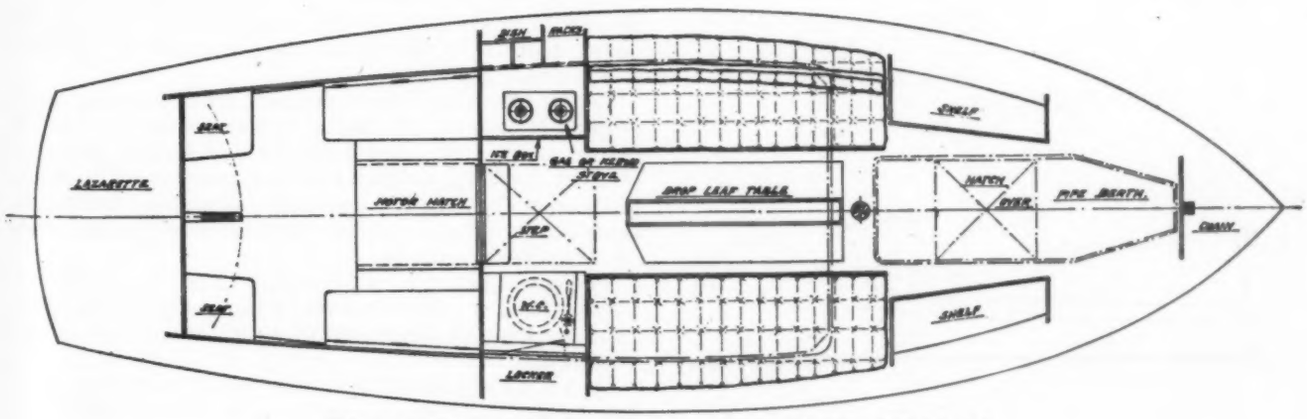
BELOW we have the plans of a shoal draft auxiliary cruising sloop from the board of Geerd N. Hendel, naval architect of Boothbay Harbor, Maine. The idea back of the design was to produce a fast and able sailing craft of shoal draft, yet noncapsizable, for coastwise and inland sailing. The dimensions are as follows: l.o.a. 25′; l.w.l. 22′ 6″; beam, 8′; draft, without board, 2′; draft with board, 4′ 6″; displacement, 6500 lbs.; iron keel, 1600 lbs.; sail area, 325 sq. ft.

With the shoal hull, more than the usual freeboard is employed to give sitting headroom over the two main cabin bunks. The centerboard is a heavily galvanized steel plate, hinged onto the iron keel. It rests on two solid points when lowered down, and is easily lifted with a rope tackle leading to the after end of the trunk. The trunk is heavily constructed of oak, and braced with bronze knees to the floors.

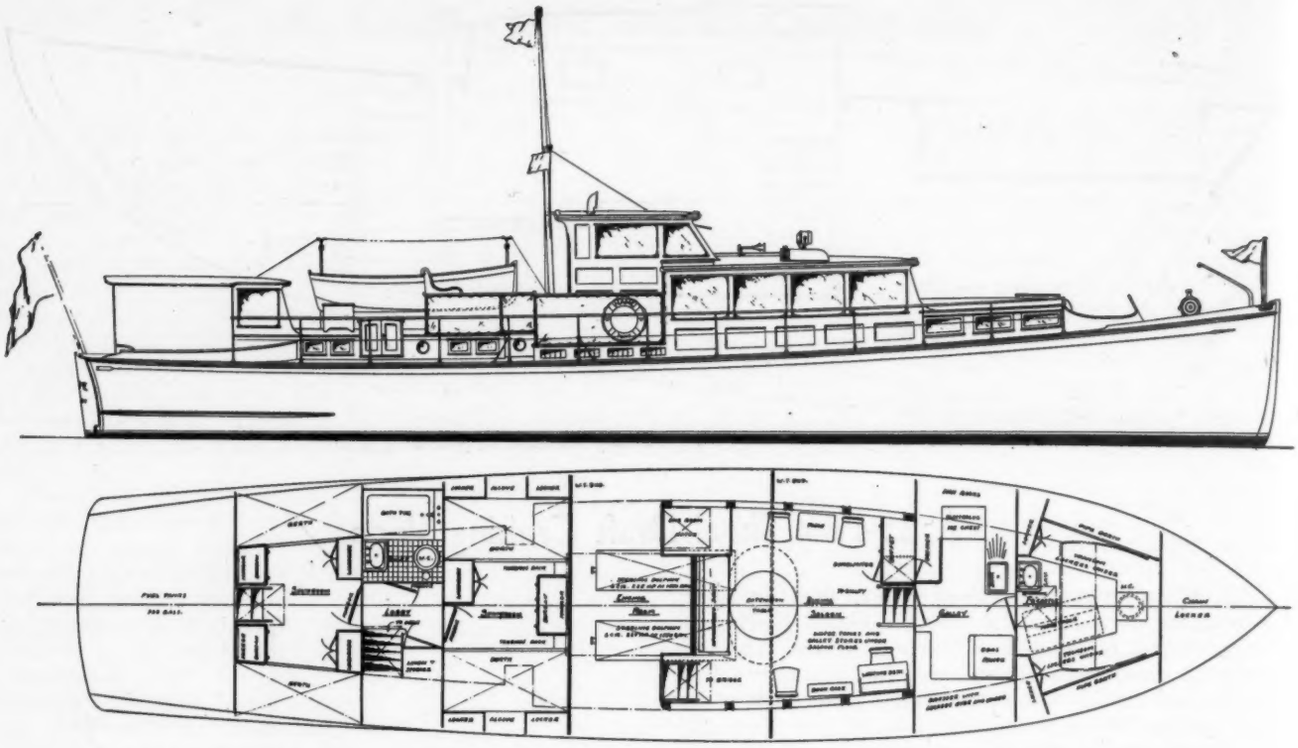
The sloop rig is all inboard, making for ease of handling by one person. The cockpit floor is raised at the after end for the installation of a 15–30 Midshipman motor, although a small 2-cylinder motor should drive her around six miles an hour.

Below decks we find the galley space to port, with toilet opposite. Two transom berths are fitted in the main cabin, while forward is another pipe berth, shelves, chain locker, etc. The self-bailing cockpit is six feet long, and plenty wide, with seats arranged for comfort and easy handling of main and jib sheets.

Sail plan of the Hendel-designed sloop



Cabin plan of the 25-foot shoal draft sloop designed by Geerd N. Hendel



Outboard profile and interior accommodation plan of the 60-foot express cruiser designed by Furnans Yacht Agency, Inc.

A Roomy and Comfortable 60-Foot Express Cruiser

THE plans above show a smart twin-screw express cruiser designed by Furnans Yacht Agency, Inc., of New Bedford, Mass., for a New York yachtsman who wanted a fast and commodious craft for commuting and all-round fast cruising. Following are the principal dimensions: l.o.a. 60′ 5″; l.w.l. 59′ 1″; beam, 13′ 6″; draft, 3′. Two Sterling Dolphin motors are installed in the midships engine compartment, and are expected to drive her 18 to 20 miles an hour.

Deck accommodations are excellent, and include bow cockpit, sun deck, bridge shelter and after cockpit with permanent shelter. Below decks the available room is excellently utilized, the plans showing two double staterooms aft with connecting bath and toilet room, midship motor compartment, large, well-equipped galley, and crew's quarters and toilet forward. The deck saloon connects with the galley and is used both as a lounge and dining saloon. The equipment is complete.

Sail plan of the Alden-designed motor sailer

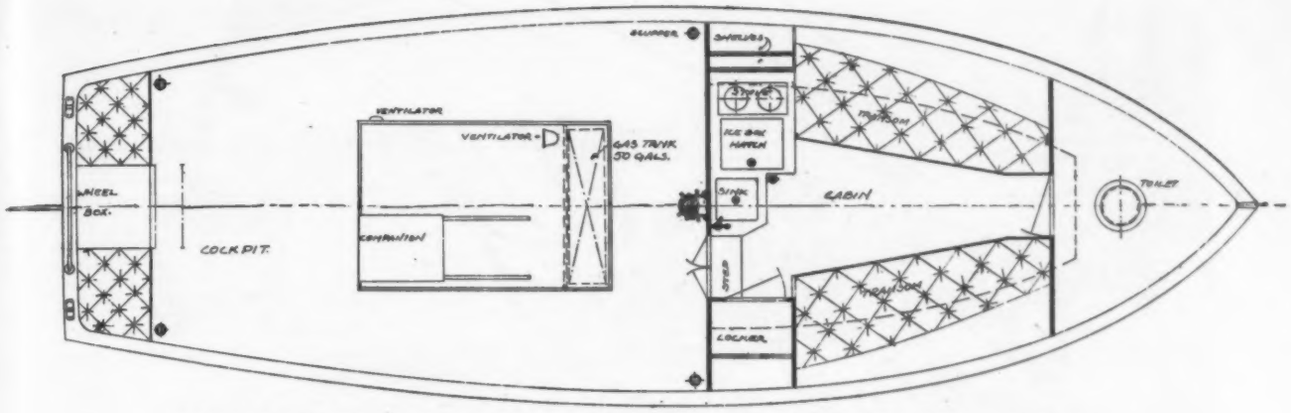
A Small Motor Sailer

ON THIS and the following page are the plans of a "junior" motor sailer built a year ago from designs by John G. Alden, which gave a fine account of herself in New England waters last summer in the hands of her owner, W. Candler Bowditch, of Marblehead. Intended chiefly for fishing and week-end cruising, she has an unusually large cockpit, yet good quarters for two people below decks. The dimensions are: l.o.a. 28′ 11″; beam, 9′ 8″; draft, 2′ 10″.

She is of rather heavy displacement, carrying 1000 pounds of iron on her keel and 600 pounds additional ballast inside. This displacement and ballast helps to account for her excellent seagoing qualities. The short jib-headed sloop rig has produced more speed under sail than was anticipated, and is used more frequently than on most 50–50 cruisers.

The power plant is a 4-cylinder 40 h.p. Gray with 2 to 1 reduction gear, and her owner reports a top speed of 12 knots and an all-day speed of 10 knots under average conditions.

Under its separate house the motor, batteries, etc., are readily "get-atable," and can be worked on in any weather without opening up the cockpit.

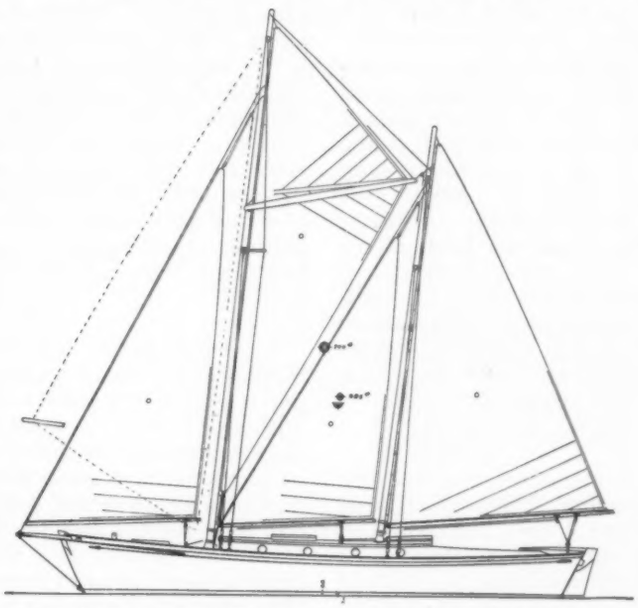


Cabin and cockpit plans of the "junior" motor sailer designed by Alden and described on preceding page

A 38-Foot "Main Trys'l" Ketch

DESIGNED for Eric De Lamarter of Chicago, the 38-foot "main trys'l ketch" shown below was turned out by Frederic A. Fenger, of Cohasset, Mass., in an effort to produce a craft which was of the "live aboard" type, economical to build and maintain, and easy to handle at all times by the owner and his wife. The dimensions are: l.o.a. 38′; l.w.l. 34′ 6″; beam, 10′ 6″; draft, 4′ 9″; sail area, 700 sq. ft.

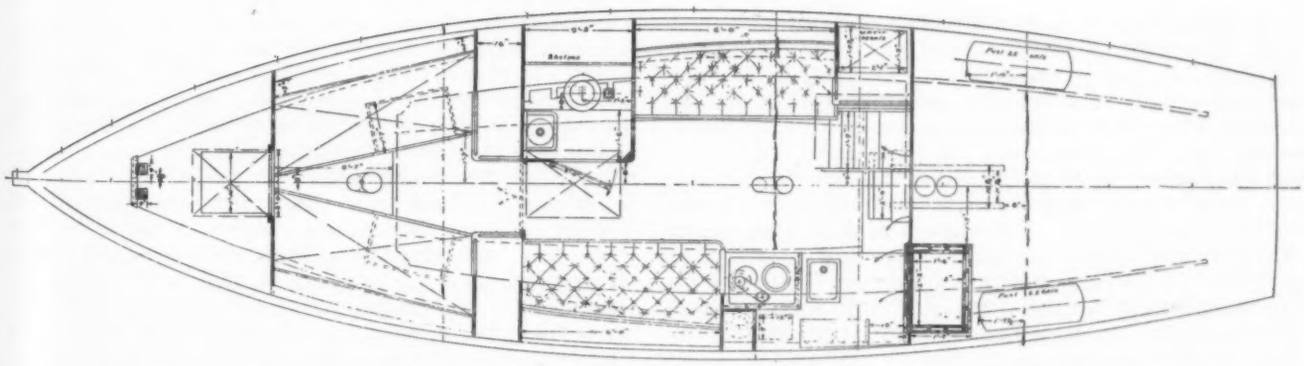
The rig is of the now well-known reefless "main trys'l" form, originated some years ago by the designer, and is of moderate area. As a first reduction when it blows, a No. 2 main trysail is used; when further shortened to either three lower sails or jib and mizzen, perfect balance is maintained, and heaving-to is accomplished under the mizzen staysail. Twin spinnakers will be used for long runs down wind, and will be so cut that they may be used as light sails when beating to leeward, for which both rig and hull are well adapted. All sheets belay at the after end of the house, handy to the helmsman. For simplicity, the "double sprit," adapted from New Haven sharpie practice, will remain aloft, though gear may easily be rigged for lowering it either with the main trysail, or independently.



Sail plan of the Fenger-designed "main trys'l" ketch

The hull has long lines and moderate displacement, with easy bilges and no reverse curves. The keel contour shows the so-called "Dhow" trend, there being a slight reverse drag to insure ample lateral plane where it is needed, together with kindly steering qualities on all courses.

Although freeboard and draft are conservative, there is six feet headroom throughout, together with plenty of floor space, and a simple, roomy interior layout. A fine double stateroom forward is followed by two hanging lockers. Then comes the commodious toilet room to starboard. The main cabin is of the "offset" variety, with two transom berths. A big galley is found abreast the companion steps on the port side.



Interior accommodation plan of the 38-foot "main trys'l" ketch designed by Frederic A. Fenger for a Chicago yachtsman

Under the Lee of the Longboat

by Cap Stan

WHAT a dandy beating the Interclub crowd took down in Bermuda! While it was proven conclusively in previous team matches that the Bermuda one-designs were faster than the Sound craft in light going, they never cleaned up in such decisive fashion before. Of course, the American boats were not the pick of the class by a long shot, and the skippers, as a whole, may not have measured up to those which the Yankees sent down to the Onion Islands in other years. However, there is more than a probability that the Bermudians have not only improved their boats, but that their skippers have improved in racing skill through hard competition. Next spring the Interclubs should make every effort to send down both boats and skippers representative of the pick of the class. If they don't turn the tables, then there's no further room for argument.

+ + +

Just saw a very convincing demonstration of this new fire-resisting, or fire-retarding paint. Any piece of wood painted with it simply won't burn. Turn a blow torch on the painted surface, and you can burn a hole in it — remove the torch, and you have a charred hole in the wood, but the fire immediately goes out. Looks like grand fire protection for all woodwork in gallies and engine rooms, or anywhere inside the boat for that matter. I fully intend to use it when I get around to my interior painting.

+ + +

Starting from scratch a number of years ago, and working against powerful opposition, the Royal Ocean Racing Club has progressed famously, and is now the governing body of a healthy, growing sport in British waters. They have scheduled no less than four major events this year, from one of 234 miles up to and including the Fastnet Race of 720 miles, the latter now being run from Cowes to the Fastnet and back to Cowes, rather than finishing at Plymouth as in former years. They are also sponsoring half a dozen port-to-port runs of 40 to 50 miles each during the summer. Would a similar organization flourish over here? It's doubtful. Numerous clubs here have held long distance races in the past, which have become fixtures. Conditions for these races vary greatly — if you don't like the rules for one race, you have a choice of several others which you can enter. Would these clubs welcome a new organization supervising their races, and telling them what to do and when to do it? Probably not. On the other hand, many members of the Cruising Club, which handles the Bermuda Race, and handled the last Transatlantic Race, feel that a separate organization to sponsor ocean races would be desirable from many angles, and that the Cruising Club should restrict itself to cruising, and get out of the racing game. Some day this question will come to a head. Who can forecast the answer?

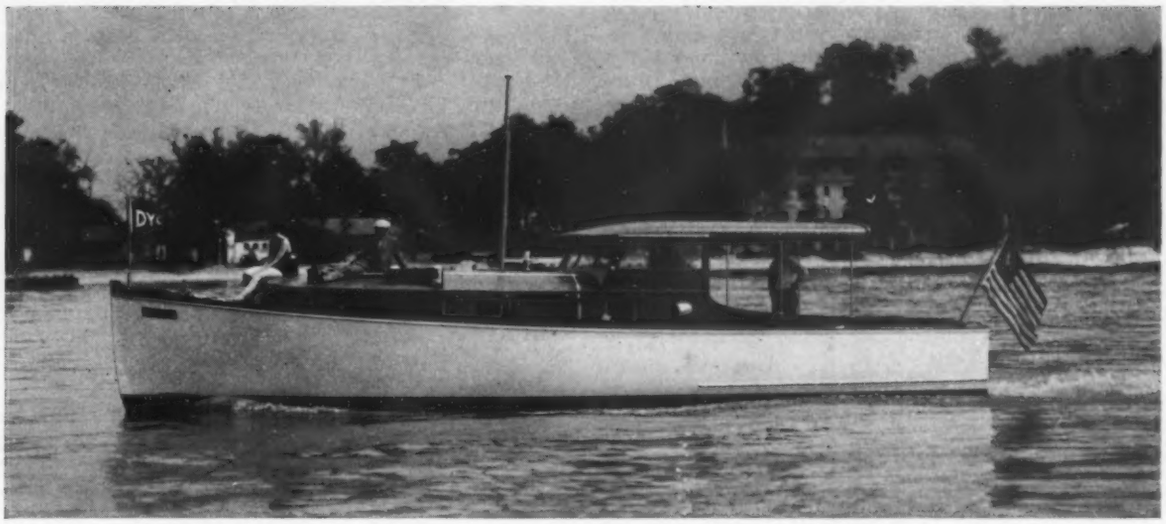
+ + +

An article in the Bulletin of the New Haven Power Squadron evidently aroused the ire of one of the fair sex, to judge from the following excerpt from their April number: "I wish to take exception to your statement that women are not useful on board a boat. If you don't call cooking three meals a day, washing dishes, sweeping down the cabin decks, polishing brass, and doing other odd jobs that the men are too lazy to do, useful, I don't know what is. And there are plenty of us who can take a trick at the wheel and steer a compass course straighter than any man. I may not be particularly decorative, but I would like to see the man who is as useful as I am aboard a boat." *Mabel.*

What a girl!

+ + +

Rumors are going around about plans under way for the designing contest announced in the April issue, despite the efforts of the architects to keep their ideas secret. I have seen the plans of one perfectly normal boat in which the designer had to take a small stern penalty or else put an unnatural stern on the boat. One architect claims that the rule, or that part of it which was expected to penalize abnormal sterns, does not fill the bill. Another claims that at least one, and maybe more, freak designs are being worked out which will "bust the rule wide open." Whether these claims are true or not I have no way of knowing at present. At least, plenty of thought and work is being put into designs under the proposed rule, by several well qualified architects, so that we should have some interesting plans to dissect in a couple of months.



"Chuck," a twin cabin Matthews "38," is powered with a pair of mated 110 h.p. Scripps motors

Of Interest to the Skipper

A Boat Buyers' Guide

A MOST useful, valuable, and interesting booklet has been published by the Kermath Mfg. Co. as a guide for boat buyers and enthusiasts. Its primary value is in the provision of a common meeting ground for the prospective boat owner and boat builder; in short, a simple, concise view presenting the best offerings of the country's leading boat builders and naval architects which will enable the boat buyer to crystallize his personal preferences and open negotiations with those builders who are best fitted to serve his particular requirements.

Listed in the well illustrated booklet are stock models, standardized models, custom built boats, and a trade directory of boat builders throughout the country. Complete specifications and prices of boats are included with the descriptive matter.

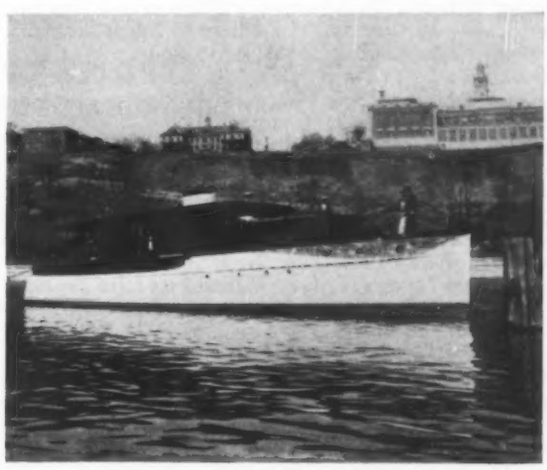
A copy of the Boat Buyers' Guide may be secured by writing to the Kermath Mfg. Co., Detroit, Mich.

Burnot Paint Carried by Topping

For the convenience of yachtsmen in the New York area who want to buy the new Burnot paint for use in galleys and engine rooms, a complete line of this product is being carried by Topping Bros., 157 Varick Street, New York.

An interesting experiment, which is convincing proof of the extraordinary fire resisting qualities of Burnot, can be performed at home or in the office. By writing to the Lundy Corp., Chrysler Bldg., New York, a sample splinter of wood coated with Burnot will be mailed promptly. The uncoated end of the sample may be ignited with a match and it will be observed to burn as far as the paint and then stop. A more intense flame from a blow torch or gas stove can also be directed on the coated wood with the result that the wood will not burn.

Among other uses, Burnot, in special form, may be applied to awnings subjected to sparks, to sail covers and canvased decks, rendering them fire-proof, and also moisture- and mildew-proof. Canvas winter covers can also be fireproofed. In use on wood surfaces Burnot acts as a cure and preventative of dry rot.



"Linmar," a new 77-footer built by the N. Y. Y. L. & E. Co. Two Winton Diesels deliver the power to Columbian propellers

Below, the new Marblehead Sportster, a 34-footer built by Staples, Johnson & Co.

Activity in Yacht Sales

AN UNUSUALLY large number of yacht sales and charters, considering the general economic conditions of the country, have been effected this spring, according to reports received from various yacht brokers. This augurs well for the coming summer afloat and shows that yachtsmen, as a whole, have no intention of giving up their favorite sport.

+ + +

Recent sales and charters effected through the office of Sparkman & Stephens include the following:

3-Masted Schooner *Vema* (ex-*Hussar*) chartered for E. F. Hutton to G. Unger Vetlesen, Royal Norwegian Yacht Club.
Seawanhaka Schooner *Aura*, sold for Henry T. Hornidge to Colgate Hoyt, of New York.
Banfield Cruiser *Buccaneer*, sold for Stephen L. Vandeveer to Evert W. Freeman, of Providence.
Matthews 38-Foot Cruiser *Casanova*, sold for William H. Hand, Jr., to Dr. W. A. McCoy.
Power Cruiser *Gander*, Waldo H. Fish to Albert Stone, Jr., of Boston.
Auxiliary Ketch *Valgerda*, F. G. Mabbett to William C. Appleton, of New York.
Auxiliary Yawl *Ilex*, Gustave Trieste to George Whittemore.
Power Cruiser *Amateur*, L. Lee Stanton to Philip L. Howard.
Auxiliary Ketch *Barbara K.*, M. P. Ryder to Winthrop P. Moore.
Power Cruiser *Eleanor*, J. Richmond Fales to John G. Brown.
Auxiliary Yawl *Pontiac*, Harold Parsons to Wells A. Lippincott, of Chicago.
Victory Class Sloop *Madame*, sold for the Victory Class Association to F. P. Harms.
6-Metre Sloop *Alerion*, E. P. Alker to Richard K. Hawes, of Fall River, Mass.
Auxiliary Schooner *Malabar X*, winner of 1932 Bermuda Race, sold for Robert I. Gale to John P. Wilson, of Chicago.
Power Cruiser *Revillod*, G. W. Dolliver to Adele Travis.
Star Sloop *Vesta*, Kenneth B. Millet to Andrew Watts.
Sloop *Bull Dog*, W. G. McCullough to B. H. Innes-Brown.
Yawl *Two Brothers*, Roger Chetwode, of London, to Arnold S. Hoffman, Barrington, R. I.
Sloop *Gull III*, Harold H. Mills to Walter N. Hubbard, Meriden, Conn.
Power Cruiser *Marie S.*, William Schlem to G. W. Dolliver.
10-Metre Sloop *Falcon*, Gilbert Ottley to Robert H. Moore.
Auxiliary Cutter *Jullinar*, W. C. Egloff, St. Louis, to R. W. Barkeley, of New Brunswick, N. J.
Atlantic Sloop *Totten III*, J. S. Williams to John Bearsley.
Power Cruiser *Cormorant*, Robert B. Noyes to Paul Beckwith.
N. Y. "Thirty" *Mermaid*, Leo Friede to F. D. Woodworth, of New York.
Yawl *Alsa*, Herbert M. Adams to Richmond H. Sweet.
6-Metre Sloop *Wasp*, Arthur Gauss to Herbert M. Adams, Jr.
Power Cruiser *Nortada*, Harold W. Buck to W. G. Campbell.
Power Cruiser *Tide*, Colgate Hoyt to F. R. Abbey.
Power Houseboat *Ambassadress*, chartered for A. C. Kittell to Stanton Griffus, of New York.
Bermuda Cutter *Cynara*, Robert H. Moore to L. Lee Stanton.

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The following transactions have been arranged through the firm of Cox & Stevens, Inc.

320-Foot Steam Yacht *Rover*, sold for the estate of Earl of Inchcape to an American yachtsman. This is the second largest steam yacht. She will shortly sail for this side.
248-Foot Diesel Yacht *Cyprus*, chartered to Norman B. Woolworth.
214-Foot Diesel Yacht *Argosy*, chartered for Charles A. Stone to a prominent yachtsman for use in foreign waters.
80-Foot Twin-Screw Express Houseboat Cruiser sold for the estate of Mrs. E. H. Harriman. This transaction was made in conjunction with the Consolidated Shipbuilding Corporation.
165-Foot Steam Yacht *Flying Fox*, sold to the Driggs Ordnance & Engineering Co.
172-Foot Diesel Auxiliary Schooner *Cressida*, chartered to a member of the New York Yacht Club.
135-Foot Schooner *Hildegarde*, sold for the estate of Edward R. Coleman to a New London yachtsman.
135-Foot Diesel *Victoria Mary*, sold for the estate of Robert H. McCurdy to George Codrington, of Cleveland.
100-Foot Houseboat *Ambassadress*, chartered to C. M. Chester, of New York.
65-Foot Powerboat *Wyndcrest II*, sold for Mrs. Hamilton M. Barksdale to Roswell Miller, of New York.
58-Foot Powerboat *Petunia*, sold for Dr. George W. Van Benschoten to Bryant Travis.
55-Foot Auxiliary Ketch *Vamare*, sold for Vadim Makaroff to A. C. Jefferson, of Minneapolis, for use on the Great Lakes.
50-Foot Express Cruiser *Harmattan*, sold for the late Mrs. E. H. Harriman to David I. Schane.
38-Foot Matthews Cruiser *Renee*, sold for J. Manheimer to Manati Sugar Co.

The above firm also reports that, in spite of general business conditions, their designing department has been extremely busy preparing preliminary plans of yachts which will be built in the near future.

+ + +

Henry J. Gielow, Inc., report the following sales and charters since the first of the year:

47-Foot Consolidated Cruiser, duplicate of boat shown at the Motor Boat Show, sold to J. Wooster Lambert, of St. Louis.
165-Foot Diesel Yacht *Margo*, sold for B. A. Massie to Leon Mandel, of Chicago.
89-Foot Auxiliary Diesel Ketch *Ripple*, C. M. Leonard, New York, to George A. Mitchell, Los Angeles. Yacht has arrived at San Pedro, from New York, under her own power.
Motor Yacht *Spindrift*, to Donald Parsons, Pinehurst, N. C.
Fishers Island One-Design Class Sloop *Canuck*, Mrs. H. J. Fuller to Robert C. Baruch, of New York.
80-Foot Houseboat *Sangamo*, chartered for Mrs. E. T. King to a New York yachtsman, for use in Florida waters.

+ + +

Tams, Inc., report the following charters:

100-Foot Houseboat *Sidney*, to Dr. Roderick Terry.
93-Foot Diesel Houseboat *Yowana*, to Dr. Ogden M. Edwards, Jr., and to V. Z. Reid, Jr.
A 160-Foot Auxiliary Diesel Schooner, to a member of the New York Yacht Club.
58-Foot Auxiliary Schooner *Casco*, to K. C. Lyman and T. F. Dolan.
Houseboat *Edna B.*, to J. F. Holmes.
Power Cruiser *Stella Polaris*, to Sterling Morton.
110-Foot Diesel Yacht *Normada*, to Eustis Paine.
100-Foot Houseboat *Ambassadress*, to a member of the New York Yacht Club.

The following sales are reported by Tams, Inc.:

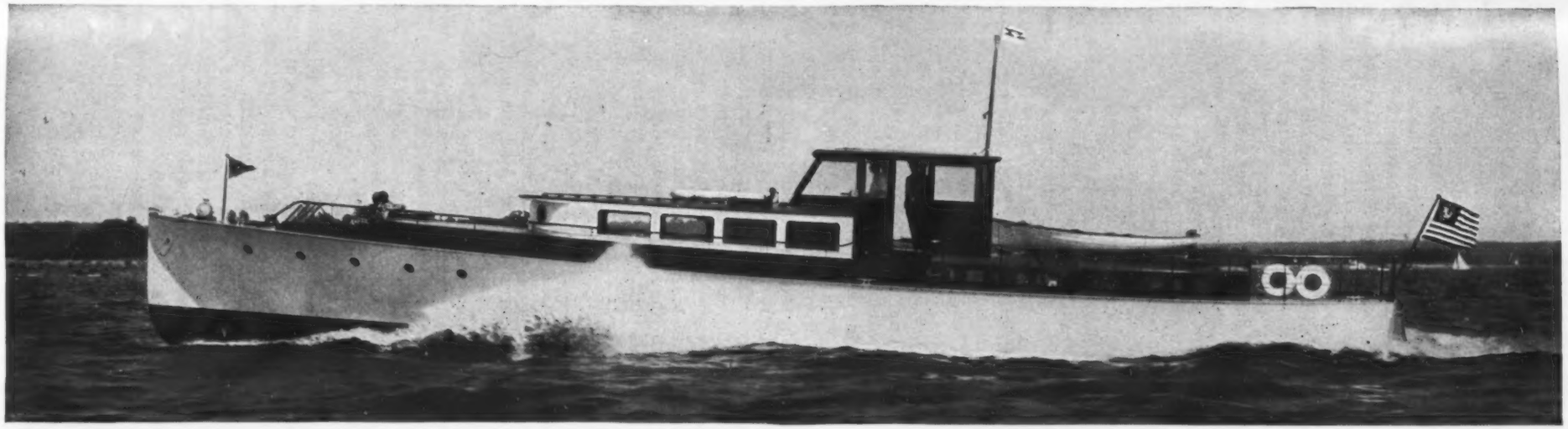
106-Foot Twin-Screw Cruiser *Klahanee*, estate of L. M. Wainwright, to Edmond A. Hughes.
70-Foot Express Cruiser *Whippet*, O. G. Jennings to Mrs. Esther Cohen.
62-Foot Elco Cruiser *Widgeon III* (now *Seawan*), G. R. Dyer, to Walter R. Herrick.
Diesel Auxiliary Schooner *Savarona* (in conjunction with Ford, Paine and Sweisguth), estate of J. M. MacDonough to Andrew Flatten.

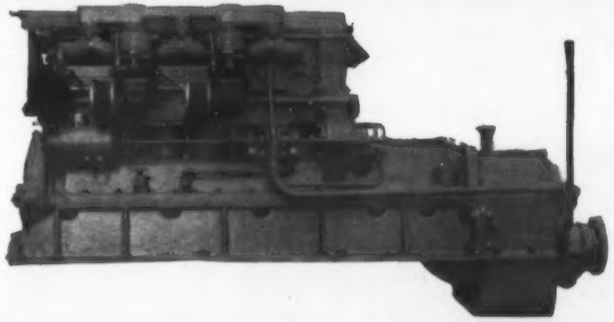
The firm also has under construction, at Julius Petersen's, Nyack, a 70-foot twin-screw Diesel cruiser for offshore work.

+ + +

John H. Wells, Inc., report the following transactions:

Contract for 123-Foot Yacht design.
Charter for Yacht *Argo*.
Sale of the following: *Fortuna II*, *Dik Dik II*, *Fortunatus II*, and motor sailer *Gadfly*.





a.C.f. Hall-Scott

The "Allondra II", the 72-foot express commuter owned by Mr. George C. Smith, Jr., of New York, and designed and built by the Purdy Boat Works of Port Washington, L. I., goes into commission this Spring powered with a pair of 275 h.p. Hall-Scott INVADERS, *with reduction gears. These Hall-Scotts replace a pair of 300 h.p. Diesel engines.*

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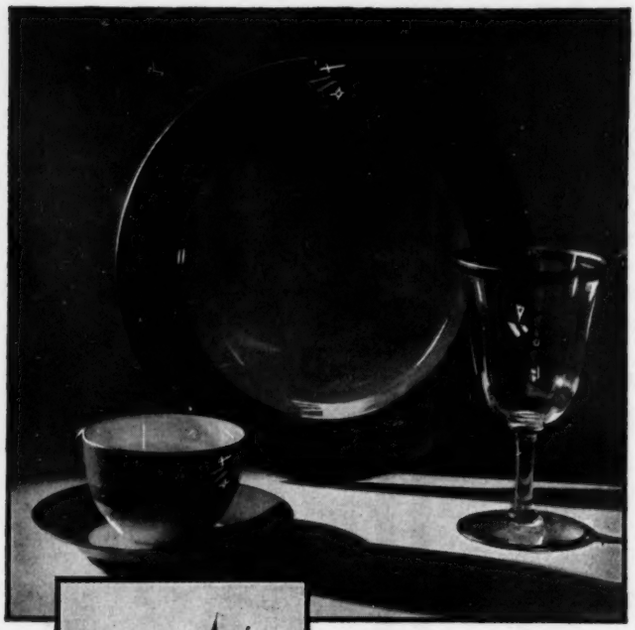

EQUIP YOUR SHIP AT OVINGTON'S

Whether you plan to slide a new ship down the ways or tune up the trusty old gondola — there are ship's things you'll be needing this Summer. For instance — ship's china, crystal and silver. Better do your chandlering at Ovington's! Ovington's has exactly what you want — at just about the prices you care to pay!

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Yacht China, Crystal, Silver . . . 3rd Floor

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Pipe these new Lenox china patterns with crystal to match. Ivory bodied with gold edge with bands in color. Dinner plates from $36.50 a dozen. Other pieces in proportion.

That Forty-Dollar Hunting Launch

(*Continued from page 38*)

halliard *and* a throat halliard instead of the single rig used by fishermen. This entire rig may be improved greatly for an outboard-driven dory, but we shall go into that, perhaps, when certain experiments are completed. At present, there are too many lines and pulleys on this boat and I believe a jib is one sail too many.

Last summer and fall I tried to take this boat out and break her up in seas and gales. Like any flat-bottomed skiff, she will pound when shoved into a head sea under full power, so we deliberately drove her full steam ahead into a 40-mile blow, one day, for two hours. It would have made you cry to see us punish a good little boat in the way we punished this one. Her mast was stepped, but sails were clewed up, going out. It was during a yacht race of the Chester Yacht Club (Nova Scotia) and the 50-footers were under double reef and making wet weather of it. So were we. When the big keel boats rounded the Eastern Shoal Spit, which is right out in the Atlantic, they had a broad reach, six miles to Blanford flag. We hoisted our sails, and then, with engine still full speed ahead, we followed them and soon overtook them. Whether it was our sails or our engine which was driving our boat so fast in the trough of the breaking seas I cannot tell, but both were driving her. We followed the regular course for about halfway to Blanford; then we swung her before it and pointed for home.

At this point we began to get a ride!

Talk about riding a surf board! Wind and engine together drove us almost as fast as the tops of the waves themselves. Steering with a racing outboard gave me the sensation of walking a tight rope over Niagara. Many a time we were going 25 miles an hour — in a sail boat, mind you, the mast bending like a fishing rod. The nice thing about those flaring, dory sides is that they go down only so far, or the greedy water comes *up* only so far. Whichever is the case, it works.

The next day we tipped the dory over on the float and looked for split planks and found her as sound and tight as a bath tub. She had not been quite as wet as one.

Last season this boat was fast to a two-ton blackfish for several hours. A harpoon and a coil of six-thread steam-tarred line made the connecting link. You cannot "haw" and "gee" a frightened blackfish as you might a yoke of cattle, so the dory took an awful yanking about the ocean while I took pictures of sea and sky — and the sea was highly resentful. All I managed to get was a picture of the line running out ahead. Every time the whale would come up and spout he must have seen me trying to stand up with the camera. Being modest, he would give the rope a yank just as I snapped the shutter. You just could not keep your feet. As it began to get dark, it gave me a funny feeling to be alone in such company. The wind was offshore and freshening. Land was no longer visible and we were some fifteen miles out in the ocean. I cut the line. For all I know that fish weighed six tons. Anyhow, he was over twice as long as the boat. The old whaling harpoon with which I had jabbed him was making him bleed, even though it had not crippled him. Other careless blackfish were gathering about, as well as the inevitable sharks. Once in a while the sharks grow very large — especially those which gather about one at night.

The point is that the dory had taken a real licking and had stood up to it. It was time to go home and let the blackfish have the coil of line if he wanted it. So home we went.

It was nice to slip along under Quaker Island Light once more, and ten minutes later I was fast to our home float. In the morning I found that the harpoon line

Eight bells sound his daily festival . . . the whistle booms . . . the lifted sextant glitters on the bridge. And so, with games and ancient mysteries, far-darting Apollo is adored. Votaries wrapped in steamer rugs lift up their faces to the Great God Tan. Prodigies of skill are performed at deck-tennis and shuffleboard. Everything glistens, everything glows with light.

An ancient fabulist once wrote: *Nothing is more useful than the sun and salt.* Certainly nothing is more healthful than the sunshine and salt-sea-air, so attractively available on a French Line crossing. Sundecks are unencumbered by ventilators, hatch covers, winches, or other gear. Experienced stewards (who speak English, of course) are at hand to help with trap-shooting, archery, horse racing, and tennis tournaments. Every opportunity is offered for working up a whale of an appetite for that world-famous French Line cooking.

Children find the facilities for play most intriguing on France-Afloat. They have a special dining-room, all kinds of amusing entertainment, and a nursery (facts which cheer the heart of every parent). And the Scotty or the Peke need not be left at home, for the French Line is well known for its care of household pets.

All of which (rather obviously) builds up the suggestion that, when you cross the Atlantic this summer, you go via the French Line. Any travel agent will gladly help you (without charge) in making plans for a European trip. . . . French Line, 19 State St., New York City.

French Line

ILE DE FRANCE, May 27, June 17, July 7 and 28 • PARIS, May 19, June 10, July 1 and 21 • CHAMPLAIN, May 13, June 3 and 24, July 15 • LAFAYETTE, May 6, June 8, July 1 and 26 • DE GRASSE, June 20, July 12 • ROCHAMBEAU, May 16, June 22, July 25

TODAY, Yacht owners are saving by obtaining their insurance in the Atlantic Mutual.

Since 1842, owners of big freighters and heavy tonnage vessels, who keep their costs at the lowest levels, have found Atlantic Mutual Insurance policies the most satisfactory.

How and Why you can reduce the cost of YACHT INSURANCE

The "Atlantic" is a mutual company — there are no stockholders — consequently dividends of profit are paid to policyholders.

The Atlantic Mutual Insurance Company has enjoyed an enviable reputation for over 90 years. It has insured property in value of over 42 Billion Dollars and returned to policyholders over $120,000,000 in dividends.

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are shared with the Policyholders.
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401 Walnut Street.....Philadelphia, Pa.
1370 Ontario Street.....Cleveland, Ohio
175 W. Jackson Blvd.....Chicago, Ill.
Canton House, South & Water Sts.....Baltimore, Md.

had also chafed over an inch into the thwart, so I made a new one.

Now if one can devise any plan by which a boat may be yanked about and strained more violently than a whale can do it, we will put the dory to the test.

Still, the model may be improved. I am at it. And you who like small and cheap boats, why not try *your* luck?

\+ + +

Your Summer Cruise

(*Continued from page 49*)

disposal, would be to go up the St. Lawrence to Kingston, Ontario, thence through the picturesque Bay of Quinte where a few days might be profitably spent, after which one could run across Lake Ontario some 40 odd miles to Oswego, and home through the Oswego Branch of the Erie Canal, and the canal proper, back to the Hudson. This would obviate the necessity of retracing one's steps except in the Hudson River, and three weeks could hardly be spent more pleasantly.

The Canadians are most hospitable to visiting yachtsmen; and there are but few customs formalities required by our neighbors on the north. One may expect more trouble at our own frontier when homeward bound. But one should report to the Canadian customs at the first Canadian port visited and obtain at the same time a permit for cruising in Canadian waters — for which there is no charge, or only a nominal one.

But once on the St. Lawrence or on Lake Ontario so many alluring routes are open to the small cruiser that the only difficulty is in knowing which to choose and when to stop. The better part of two months could be enjoyably spent in sheltered Canadian waters, and the cruise extended all the way to Georgian Bay, the North Channel and to the Sault St. Marie and the entrance to Lake Superior.

The Trent and the Rideau Canals and waterways take one through a delightful wooded country, and the Trent waterway will give one access to Georgian Bay without the long open runs through Lakes Ontario, Erie, and part of Huron, the distance from Trenton to Port Severn being approximately 250 miles, and every mile of it interesting. Once at Port Severn, the cruise to Georgian Bay and the North Channel above Little Current is easy. But a description of this choice cruising ground is too lengthy to get in this article and will be given in detail in a later issue. There are some 40 locks in the Trent Canal and progress won't be too rapid, but there is plenty of draft for moderate sized power boats, although a length of 54 feet and a beam of 15 is about the maximum size of boat that can get through to Port Severn.

From Kingston, Ontario, the little Rideau Canal winds through a beautiful country to Ottawa, whence one can cruise down the Ottawa River, through the Lake of Two Mountains to Montreal, some 125 miles in round figures.

The opportunities are unlimited; all one needs is a good boat, preferably not too large, and plenty of time to do the trip comfortably and not too fast. And this summer, if one does get to the Great Lakes, there is the opportunity of going all the way up to Mackinac Island and thence down Lake Michigan, 330 miles, to visit the Century of Progress World's Fair at Chicago. They say it will be worth visiting, and especially so in a yacht, as preparations for the entertainment of yachtsmen are going forward at a great pace. But this means time, and five to six weeks will be none too long to make the trip and to see something of the waters enroute.

"DEPENDABLE . . . HIGHEST QUALITY . . . and decidedly economical"

GEORGE BROOM of Seattle, known the length of the Pacific Coast for his thirty years' experience as a rigger, sees no reason for his customers to choose between Rope Quality and Rope Economy. He gives them both on their boats by using Plymouth Ship Brand Manila.

Mr. Broom writes us, "I know when I order Plymouth Rope that I will get exactly the specifications I asked for. Plymouth Rope, all the years I have used it, has been uniform, dependable, of highest quality and decidedly economical."

Now that launching time is here, make a final checkup on the rope on your boat. Mr. Broom suggests replacing mooring, buoy and dinghy-lines every six months, halliards at least every two years, anchor warp every two years, sheets every year.

And remember that you can combine quality and economy, that you can ensure your safety in heavy weather, your unmarred pleasure in all weather, by using Plymouth Ship Brand Manila — known as the "Rope You Can Trust."

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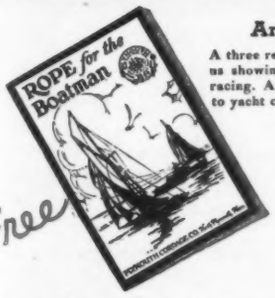
COP-PAINTED
to resist bacterial attack. Spliced, parcelled and served with thimble ready for use.
8 sizes: ¾" to 1½" diam. 6 lengths: 4 to 9 fathoms



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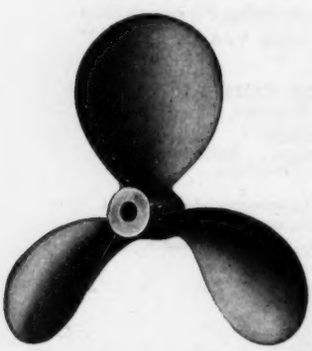
While a Hyde Propeller will always bring you home safely, impact with a rock or submerged pile may necessitate reconditioning of the wheel. Boating days are far too precious to lose. Call at your nearest Hyde dealer and buy a "spare" bored to your shaft size. This will permit time for a proper job of reconditioning of the damaged propeller done at the factory. It's a simple matter to beach a boat and change a wheel.



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Send for this free booklet "Propeller Efficiency." It will tell you why Hyde Propellers often increase the speed of a boat and always get home safely.

HYDE

PROPELLERS

A 12-Foot Sailing Skiff

(*Continued from page 57*)

Many 12-foot skiffs are built without chine stringers, which is all right if one can be certain of making a tight seam at this point; otherwise, a chine should be put in. This is shown dotted in the large half-section. In any event, the interframe chine pieces in the bow should not be omitted, as this part of the boat will come in for quite a pounding in a head chop. They can be made from the frame ends, sawed off when the boat is turned right side up after planking.

Each piece of the bulkhead material, as it is made ready to go in place, should be slightly grooved on one edge and a thread of cotton wicking set in and well painted.

The bottom, of ¾″ finished stock, should, with careful planning, be obtained from about 40 board feet. The middle and outside planks are about 7½″ wide, from 8″ stock, and the two intermediate boards on each side are each 5½″ wide, from 6″ stock. If the boat is likely to be hauled out on the beach, a ⅞″ by 1½″ oak runner should be bolted to the bottom at about the middle of the second plank out from the center plank on each side.

The side planking consists of three boards on each side, obtainable from only three planks of 1¼″ by 8″ by 14″ stock, ripped up at the mill and dressed to ½″ finished thickness. The middle plank of each side can be left with straight parallel edges, and the method of laying out the planking is as follows: The frames, stem, and stern, will be set up and the bottom planked before the batten notches are cut into the side frames, and the sheer heights taken from the offsets and marked on the side of each frame, so that the marks can be seen when the plank is laid on. Then the middle planks should be clamped temporarily in place and adjusted so that the top and bottom planks will not come shy at either end.

The batten notches can then be accurately marked and the plank removed, notches cut, battens fastened in place and the middle plank put back and fastened. Then the top plank, or sheer strake, which is really the lower plank, as we are working upside down, should be laid on and the sheer marked from the points which we have been careful to mark on the sides of the frames. Take off the sheer strake, run the sheer line on with a batten, and cut the plank to the fair curve before fastening in place. The procedure for the garboard planks is obvious.

A word to the wise; fasten all the planks to the frames before fastening to any of the battens, as the close contact of the planks at the base of the seams will help to prevent the edges from splitting off.

The accompanying diagram shows the possibility of getting the entire deck, bulkheads, flooring, hatch lids, and rowing seat from 32 board feet of stock. This can be done only with clear stock, careful work, and luck, so you had better allow an extra board or two.

The principal items of material for the job should stack up about as follows:

120	board feet	of	pine	1½	gross	⅞″	No.	9 screws
40	"	"	" oak	2¼	"	1	" "	" "
20	"	"	" spruce for spars	1¼	"	1¼″	" "	" "
				¾	"	1½″	" 10	"
				1¼	"	2	" "	" "

Although galvanized screw fastenings have been specified, others can be substituted according to preference, convenience, and purse. Give first choice to bronze, with brass and galvanized screws following, and galvanized nails last. The difference in cost between the

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FROM 2-8 CYLINDERS ★ FROM 5-115 H.P.

most and least expensive fastenings may amount to as much as $8.

With the best materials and with a professionally made sail, one should be able to build the boat for not much over $60; the lowest price for which there would be a chance of getting her would be about $40. She will weigh between 400 and 450 pounds, and her displacement to the designed waterline is 750 pounds, so she should carry between 300 and 350 pounds of equipment and crew without floating below the line indicated.

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The Double-Plank Drogue

(Continued from page 46)

weight from a bridle and sink line, their combined length being such that the weight can be lowered overside before launching the drogue.

TRIPPING: After attempting various "trick" methods, it was found most practical to trip directly from the after end of the drogue at the vent. The pull required is four-tenths of that on the warp, and this only at the initial moment of tripping, as the drogue soon tends to sheer and spill the stream from the opposite end. The tripping is done from the cockpit whence the line —acting at an angle of about 10° — induces a certain amount of sheer as soon as tension is applied, and it is here that the drogue is brought home for hoisting in and taking down. But the trip must be kept forward and belayed with ample scope while the drogue is in action. The line itself should be of ample size so that with the larger drogues a handy billy or deck winch can be applied for the initial haul if man power is not sufficient. As there is small risk of chafe, provided the gear was properly set in the first place, there should be no difficulty in tripping directly, without handling the warp. Should the bight of the trip foul the weight or buoy lines, the warp can be hove in a fathom or two, the trip belayed taut and then the warp veered, thus spilling the drogue. By whatever means — as with the canvas drogue — this maneuver should be started when the vessel is on the back of the sea and the warp at least tension. The drogue can then be hauled in by the trip while the warp is taken in from forward.

Up to 50 feet l.w.l. the same proportions of warp and trip line hold as with canvas drogues, that is, one inch of rope circumference for every ten feet of waterline for the warp, and halve this for the trip. In the larger sizes, however, the warp circumferences can be shaded to one inch for every twelve feet of waterline and the maximum circumference need not exceed six inches, the trip remaining at half the warp circumference. Also, in these larger units, the clear warp length from hawse lip to bridle can be extended from 150 feet to 175 feet in seas that are full grown.

STOWING: Particularly when laid out for a vessel that is building, the planks can be stowed under the cabin deck, being berthed in recesses cut into the floors.

The planks should be of well seasoned material and thoroughly fed with raw linseed oil. It is an excellent idea to paint the drogue white so that it can be seen, when submerged, at some distance.

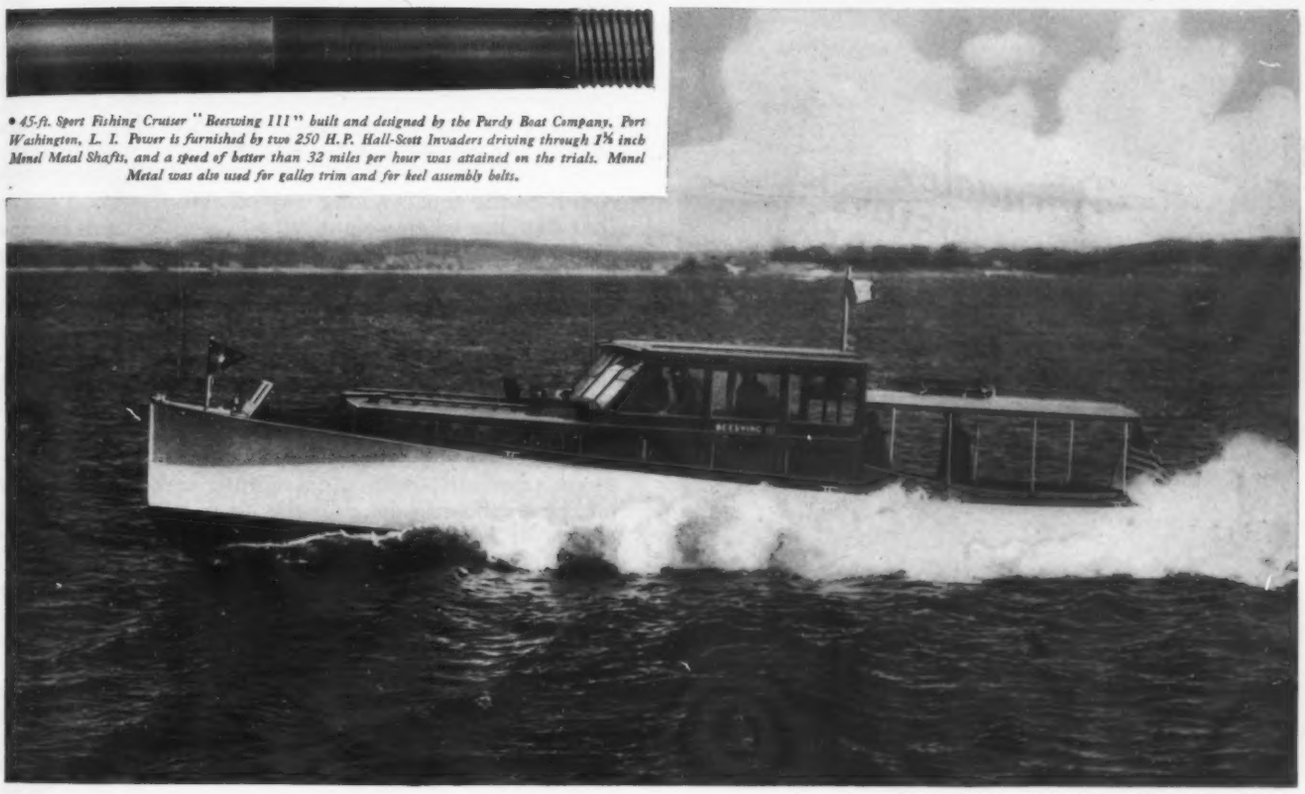
Buoy amply with a large can or cedar float, also painted white and with enough scope so that the drogue will be submerged about three fathoms. The buoy line is bent on to a rope bridle knotted through holes spaced across the middle third of the outer edge of the upper plank.

ANOTHER PURDY THOROUGHBRED

WITH MONEL METAL

Shaft and *Galley*

• 45-ft. Sport Fishing Cruiser "Beeswing III" built and designed by the Purdy Boat Company, Port Washington, L. I. Power is furnished by two 250 H.P. Hall-Scott Invaders driving through 1⅞ inch Monel Metal Shafts, and a speed of better than 32 miles per hour was attained on the trials. Monel Metal was also used for galley trim and for keel assembly bolts.



● From stem to stern the "Beeswing III" is 45 feet of trim, fast-stepping beauty...every inch a thoroughbred...and a credit to her builders. A sport fishing cruiser, she was designed and constructed by the Purdy Boat Company of Port Washington, Long Island, whose reputation for turning out fine, custom built jobs is international.

And now the "Beeswing III" lives up to this world-wide reputation! Graceful as a gull, sturdy as an oak she reflects the highest traditions of fine boat-building in every detail of design, workmanship and materials. For one thing, she is equipped with a Monel Metal Shaft. For another, her galley is trimmed with this same silvery, rust-proof Nickel alloy. Nor is that all... even her keel is assembled with Monel Metal bolts!

This type of construction is typical of Purdy boats. And you can readily understand what it means when you consider Monel Metal's amazing fitness for marine service. This modern metal cannot rust. It is highly resistant to corrosion...to pitting and abrasion. It is solid through and through, with the tough, rugged strength of steel so that it defies shocks and wear. Monel Metal shafts can stand a blow that would break or bend ordinary shafts. Monel Metal brightwork retains its crisp, lively beauty through service that would soon cause coated materials to dull irreparably. Monel Metal fastenings withstand corrosion and strains that would crack ordinary bolts and screws.

You will find Monel Metal shafts and accessories regular equipment on the leading standardized as well as custom made boats. You can also give your present boat the advantages of Monel Metal equipment at moderate cost. Just ask your boatyard, or write us for further details.

• • •

The same properties that make Monel Metal so valuable for propeller shafts, also make it the ideal material for many types of hull fastenings and other marine accessories. Monel Metal is available in the following shapes and forms: sheets, tubing, strip, wire rope, wood screws, nails, rivets, bolts and nuts, lag screws, etc.

Monel Metal

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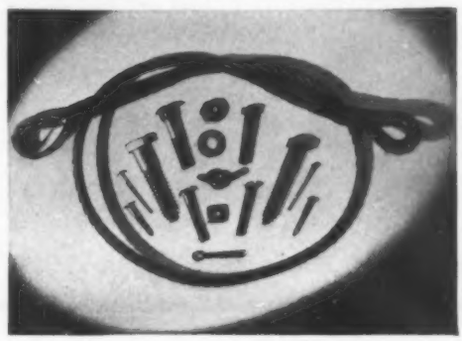

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A Northern Labrador Cruise

(Continued from page 42)

The air force had stayed at Hopedale a week, while Bonnick worked on the photography. Then they left to fly over the Grand Falls, more than 200 miles inland, and photograph that remarkable cascade. They had left a priceless cargo of negatives of the survey pictures, nearly 600 in number, for us to take home.

All of our remaining fuel oil was poured into our tanks, in a nasty rain storm, which made a wet and sloppy job of it. The next day was also vile, with heavy rain and a strong wind from the northeast, and though it meant cutting our time for reaching Corner Brook perilously short, we were glad to take the advice of the leading Eskimo citizen of Hopedale and of the skipper of a fishing schooner which came in for refuge, and wait in harbor another day.

August 27th the weather cleared, and we started on. The passage by Kayaksuatilik was no longer confusing, for the photographs we had taken from the air in July showed the lay of the land; and with a bright sun and a fresh north wind ruffling the water, the lookout aloft could see the shoals a long way off. We had good sailing that day, but when we got outside of the islands beyond Turnavik the seas kicked up by the storm were big enough to give us a wicked roll. They also revealed some uncharted reefs off Cape Mokkovik, for seas of that size will break on rocks with as much as three fathoms on them. Thus we were able to give some new information to the various hydrographers in London, Ottawa and Washington. We passed inside the Ironbound Islands, running free, inside the Ragged Islands in the twilight, and stood out to sea by Cape Harrison. The moon came out and made a shining wake on the water off the starboard bow, and the magic of it dispelled the clouds of fatigue which had come from long days of racing against time. For the first time since we rounded Cape Harrison north-bound, we sailed all night, but the ship rolled so that few slept soundly. Toward morning the wind freshened, and when we put into Indian Harbor at 7:30 A.M., it was approaching gale force. We had breakfast at anchor, but had barely finished when we started to drag right out of the harbor. Heaving up the anchor, we returned under power to our berth and let go both anchors with so many fathoms of scope that they held fast, though the wind increased to 50 miles an hour or more.

Even in the snug shelter of Indian Harbor it was rough going for small boats, but the Grenfell Mission motor boat put out and came alongside with an invitation to lunch at the Hospital. Those who went made a lively crossing to the shore in the tumultuous mass of white-caps. After lunch we had to face the question of pushing on at once. The roaring gale was blowing with greater ferocity than any we had seen since leaving Boston, and the harbor looked like a very good place to stay. But to wait there till morning meant running a great risk of not reaching Corner Brook by September 2nd. And after all there was no very good reason for not pushing on 40 miles to Independent Harbor for the night.

Crossing Hamilton Inlet the seas grew rougher till they came aboard over the starboard quarter. Before we reached the lee of George Island we had ten miles of open water to windward of us and the gale was still blowing its hardest; added to this there was a localized disturbance of especial violence, which looked like a tide rip. At all events, steep waves came tumbling over the rail and washed the deck from stern to bow. George Island provided a welcome shelter, and soon the wind moderated. We set the foresail, and from then on enjoyed a comfortable run to Independent Harbor.

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Likewise, a 38-pound "twin" with the highest power output per pound in the entire lightweight field — a motor for larger tenders, quick passages, heavy loads — $99.75.

And the *Fleetwin* for speed-dinks, sea-skiffs or brass-bound "owner's gig". A really superb power plant for $149.50 — and for surprisingly small extra cost it comes with a press-the-button electric starter-generator that's seaworthy and dependable in every respect.

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Model	Brake Horsepower (Certified by N.O.A.)	Speed (on service hulls)	Price
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Sportfour	16.2 at 4000 "	4-26 "	215.00
Speeditwin	21.1 at 4000 "	5-28 "	230.00
Speedifour	31.2 at 4000 "	5-34 "	295.00
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Fastwin	11.2 at 4000 "	4-22 "	135.00
Speeditwin	18.9 at 4000 "	5-26 "	175.00
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Midget	(Send for specification folders)		135.00
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Y 8

At 5:30 A.M. we were off again with a cloudy sky and a moderate breeze from the north. We sailed comfortably southeast through Domino Run and then south along the coast for Battle Harbor. Fog enveloped us in the night, but we kept sailing a safe distance from the shore. At 5:40 A.M. we met the mail steamer *Kyle*, headed north, having just stopped at Battle Harbor on her way from St. John's to Hopedale. This meant we should find oil, for of the messages we succeeded in sending *via* Lenox on August 14th, the most important was one requesting the shipment of all our remaining oil at St. Anthony, to Battle Harbor.

At 7:45 A.M., on August 30th, we reached Battle Harbor and replenished our tanks with the 400 gallons of oil which had just arrived. We also received two radiograms, one from Sir Wilfred, who had reached Hopedale the day after we left, and one from Brownell reporting both planes at Cartwright, safely back from their flight to the Grand Falls.

Leaving Battle Harbor after lunch, we plunged into the dense fog of the Straits of Belle Isle and for some time traveled blind. Later the fog lifted, and before nightfall we could feel the change from the chill of the Labrador Current to the mild temperature of the Gulf of St. Lawrence. The sea was smooth, and everything was simple now; although we were underway, I slept so soundly that night that on waking I did not know where I was — the first time on the whole cruise that I had enjoyed this refreshing experience. Morning found us sailing peacefully along at seven knots with a fair wind, and the friendly-looking hills of Newfoundland to port.

September 1st dawned bright and sparkling, with a moderate southeast wind, and before noon we had entered the Bay of Islands, where green pastures and dense forests brought back to us an almost forgotten world. Our race against time was won, and at 2:30 that afternoon, with a margin of almost 24 hours before the departure of Odell's train, we tied up to the dock at Corner Brook.

At Sydney we hauled out to scrape off the caplin eggs and repair the splintered portion of the keel. This restored the *Ramah's* cruising speed under power from 5.7 to 7 knots. We retraced our course from there through the Bras d'Or Lake to Halifax. Finally, after a day of tranquil sailing with a light north wind on the beam, a smooth sea and brilliant, clear air, we made our landfall at Cape Ann about noon on September 13th. That evening, at 6:40, we arrived at Lawley's yard, in the Neponset River, whence we had started on June 16th.

We had cruised about 3700 miles; we had brought back survey material for a map of about 4000 square miles — a larger area than we had hoped to cover when we started, and our naturalists had found a wealth of interesting material, which in time will be reported to the scientists in their fields of study. The ship and the planes served us well. All hands brought home a host of interesting memories and, better still, warm friendships with one another.

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Handling the Power Boat at Sea

(*Continued from page 30*)

tion. But it is rather ghastly to watch the water from the bilge run up over the top of the lee bunk and wonder each time whether she will go clear over. Personally, I recommend this manner of "heaving-to" only when one is too beat to care.

My own solution for the problem is at once unorthodox and simple. Besides, it is hard work and gives you something to do. In a gale offshore, where the seas are long and regular, it is only the occasional tumbling crest

"Come on, America!"

The Dollars You'll Save are Speaking to You Now

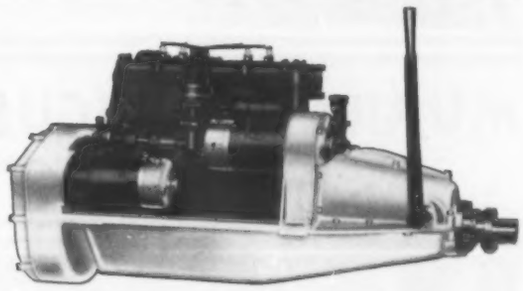
While they Last!

GRAY 4-30

The Motor with the Greatest Record of performance of any Marine Four ever built.

Bore 3⅜", Stroke 4¼", 152 cu. in. displacement. 20–30 *Usable* h.p. in Cruisers, Workboats, and Auxiliaries, on Propeller sizes up to 18". 30–40 *Usable* h.p. in Runabouts on Propeller sizes up to 13".

$295.00



AMERICA, *Here are the Plain Facts!*

Meeting today's demand for a low-priced "Four," Gray is building up 100 Model "Four–30" Engines to 1931 specifications. Because this enables Gray to use up inventory and reduce shop overhead through increased production, and because it definitely puts an end to the *production* of Model "Four-30," these motors can be priced at $295, fully equipped.

The 1931 Price was $425.

These "Four-30's" are being built in 1933, tested in 1933 and *definitely are not* "Distress" merchandise, but are Gray's answer to hundreds of requests for Gray Quality at a price.

There are just 100 of these Motors. When they are gone, the offer will be withdrawn. There will be no more.

Free with every Gray!

This Boating Necessity— a $40 VALUE

Gray now gives Free with the Purchase of every 1933 Gray this complete, indirectly lighted Instrument Panel, with 4,000 r.p.m. Magnetic Tachometer, Ammeter, Oil Pressure Gauge, Ignition Lock-Switch and two Lighting Switches.

Enables you to get the utmost in performance, efficiency and economical operation from your motor. No boater who has ever used one would be without it. Offer good for 30 days from appearance of this Ad.

Wanted! New Blood for our Dealer Organization

The tide has turned. Gray is being swamped with inquiries from all parts of the country. We need men who know boats and motors to take advantage of this situation.

There are 31 Models in the Gray Line — "Fours," "Sixes" and "Eights" and a "Single" — a motor for every boat in your territory: —

Workboat Motors
Cruiser Motors
Auxiliary Motors
Racing Motors
Runabout Motors
Reduction Gear Motors
Gray Vee-Drive Gear

If you know boats and motors, if you are competent and want to get into business for yourself, you can cash in on the business headed for Gray in 1933.

Give Gray full proof in your first letter of what you have done and can do. You will be given a prompt reply.

Compare these Specifications before buying

Included at the $295 Price are the following: Starter, Generator, Distributor, Flame Arrester, Drip Pan, Lifting Rings, Iron or Aluminum Base, Latest type ball-bearing Paragon I.X.E. Clutch and Reverse Gear, Detachable Intake and Exhaust Manifold, choice of High Speed or Economy Carburetor, choice of Light or Heavy Flywheel, Instrument Panel and all equipment as per 1931 Catalogs.

GRAY MARINE MOTOR CO.
656 Canton Avenue
Detroit, Michigan

Gray Marine Motor Company of Canada, Ltd.
120 Sandwich Street, Windsor, Ontario

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1. The 1933 Gray is built in 1933 to 1933 standards. It will not be an "orphan" in 1934.
2. Every Gray is built by men who have known boats and practical boating for 27 years.
3. More Grays are running today than any other make.
4. More stock boat builders specify Gray than any other make.
5. Gray Trade-in Values are the Highest in the Industry.
6. Gray Parts Costs are the Lowest.
7. Gray Motors are *precision-built* production motors. Vast Production make Gray Prices possible.

Buy Your Motor Now Before Costs Go Up!

GRAY MOTORS

GRAY MARINE MOTOR CO.
656 Canton Avenue, Detroit

Please mail me information on
- ☐ Gray "Four-30," at $295
- ☐ Gray "Vee Drive Gear"
- ☐ Complete Gray Line

Name.....

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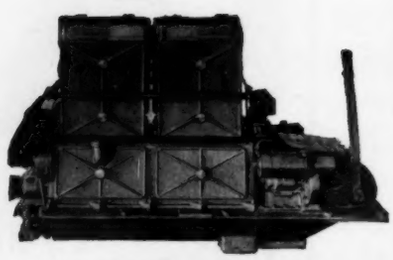
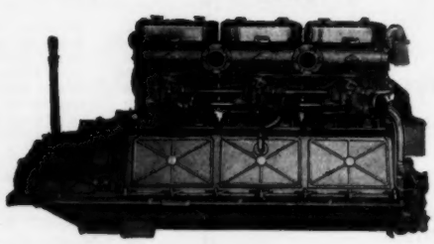
Have you considered

MURRAY & TREGURTHA ENGINES

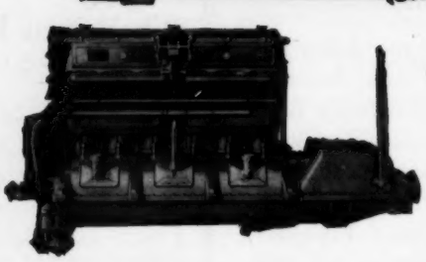
for Your Boat



Model M-O-4
4-cyl. Fuel-Oil Engine
65–85 h.p.,
650–1000 r.p.m.
Weight 2,650 lbs.



Model M-O-6
6-cyl. Fuel-Oil Engine
110–140 h.p.,
700–1100 r.p.m.
Weight 3,250 lbs.



Model K-6
6-cyl. Gasoline Engine
325 h.p., 1650 r.p.m.
Weight 2,400 lbs.

● ● ● Murray & Tregurtha manufacture two lines of engines. We have produced gasoline models for forty-two years and fuel-oil models for three years. In outward appearance and for all practical purposes, the two lines are very similar. The fuel-oil engines are controlled and operated the same as the gasoline engines. They have no greater vibration, require no more space, and have the additional safety feature of starting and running on fuel oil — gasoline is entirely eliminated. Murray & Tregurtha fuel-oil engines are not of the Diesel type — they cost substantially less than Diesels.

Murray & Tregurtha fuel-oil engines use the Shore carburetor-manifold system.

MURRAY & TREGURTHA INC.
NORTH QUINCY, MASS.

Distributor for New York District: F. BENJAMIN SEXTON, 125 Lafayette St., New York

that you need fear. My experience is that head-on is the best way to meet these. Otherwise there is at least a possible danger of a small vessel being "rolled." So I keep my motor running and watch each oncoming sea for sign of a breaking crest. I do not keep way on the vessel, but when I want to swing her head one way or the other I slap the clutch in and give her the gas. A foot throttle comes in handy, as you have your hands full with wheel and clutch — and a life-line or lashing to lean against so as to preserve your balance. I strive to meet each sea as it comes along, without actually giving the vessel headway. The instant her bow points as I want it I jerk out the clutch. Granted that this throws a tremendous strain on the machinery — and also on the steering gear, for one is kicking full bore against a hard-over rudder. It is physically fatiguing — like running rapids in a river that never ends. But it is sport and a real test of skill. It is far more satisfactory than lying to a sea anchor or drogue, *because one is active* — and besides, I never saw a drogue that would hold a powerboat head to wind or anywhere near it. If one did, I think it would probably yank out her bitts. In addition to all these arguments, we have the really basic one that the salient features of the modern power craft are her mobility and tremendous power, so why not use them? With twin screws the job is even more fun.

It is possible, of course, to encounter a storm so fierce that any sort of maneuvering is out of the question, even well offshore where the water is deep and the sea long and easy. Such a gale struck the coast of Nova Scotia a few summers ago and cost the lives of a number of fine fishing schooners. If one has the misfortune to fall in with such a twister, about the only thing I can recommend is to batten down everything and go below. Your only reliance then is in the natural buoyancy of your craft and the fact that she drifts so fast as to offer little resistance. But this is the case in which I would sacrifice awnings and windshields.

This all sounds rather gruesome and perhaps not over-encouraging to the beginner, so let me point out that the purpose of this paper is to deal with those admittedly unusual conditions which sometimes arise. With our present system of weather forecasting, making use of radio information from ship and shore stations, there is seldom such a thing as an unheralded storm.

There is, however, one danger point of great importance which does not relate to storms: and that is the making of landfalls in thick weather. Nine landsmen out of ten will run for a lighthouse without making an effort to listen for the horn. They may *think* they are listening, but what they fail to realize is the impossibility of hearing anything so remote above the roar of wind and water and the noises of ship and engine on board a modern powerboat underway. You are too close to them all. Don't be afraid to stop the engine and let the vessel lie quietly for a few minutes while your hearing becomes attuned. Then, if you have steered straight and figured your run aright, you will probably hear the siren or horn. And that *may* save you a slight error which would have meant going cross lots over a dirty reef.

\+ + +

Come Hell or High Water

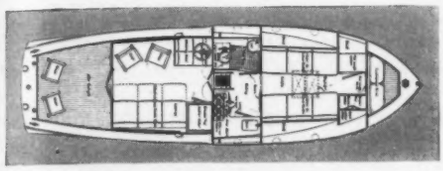
(*Continued from page 52*)

that job, the bigger it looked — to say nothing of Hell Gate at the other end.

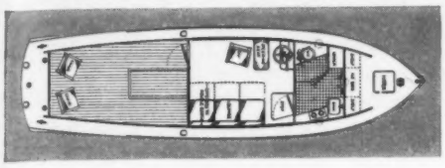
Our rejuvenated motor kicked merrily along — rejuvenated but not reformed, for just as we were passing under Brooklyn Bridge it "rared" up on its bracket, let out a roar and died. I never knew just what went wrong this time. At any rate, it had pushed the *Comet* for the last time, because we never used it again.

MARBLEHEADS FOR 1933

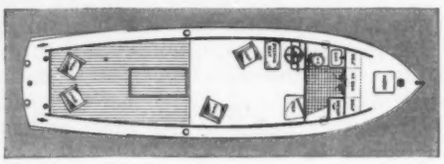
MORE ROOM . . . STEADIER . . . FASTER . . . BETTER FINISHED



MARBLEHEAD 35'
The deckhouse is a salon during the day but gives that much needed extra stateroom at night. Sleeps six in comfort. **$4750**
Delivered New York City



WEEK-ENDER 34'
While three-quarters of the boat is out-of-doors loafing space, cruising accommodations are commodious and complete. **$3225**
Delivered New York City



SPORTSTER 34'
An ideal day cruiser, tender, fishing boat or ferry. It has an ice box and complete toilet facilities. **$2975**
Delivered New York City

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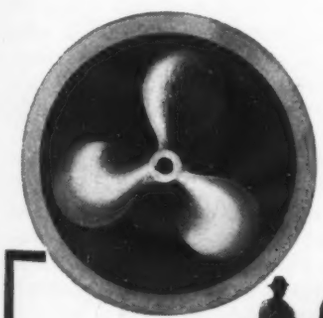
Homan Boats, Inc., Amityville, Long Island, N. Y. *and* Borick's Marine Showroom, 153rd St. and Hudson River, N. Y.

STAPLES, JOHNSON & CO., Biddeford, Maine



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Tru-Pitch Propellers pack the punch of real speed . . . They're built that way . . . Better wheels for better performance. If you want Certified Pitch, specify a Tru-Pitch. Their accuracy is guaranteed. That is why actual racing records show Federal-Mogul Tru-Pitch Propellers to be the leaders in the field. Get the facts from your nearest dealer — or write us direct.

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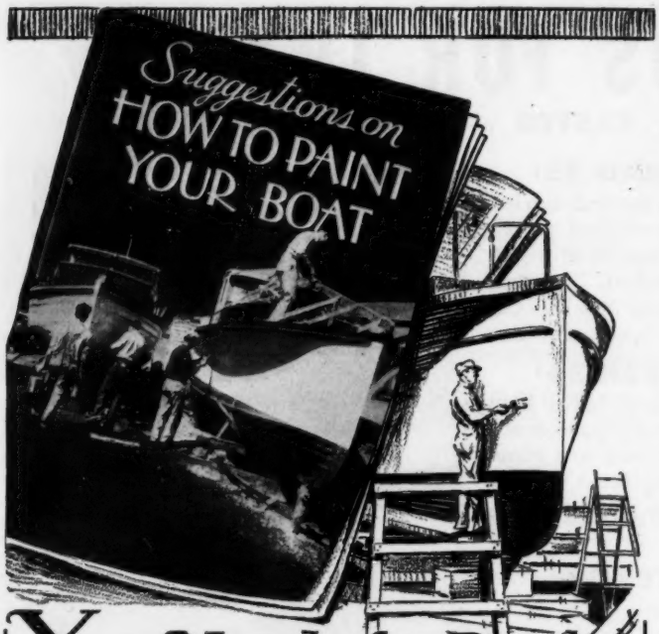
When you buy TARR & WONSON'S it is well to note that our full name is on each can, with the picture of the full rigged ship at sea. No copper paint is genuine TARR & WONSON'S that is otherwise labeled.

TARR & WONSON, Ltd.
Gloucester, Massachusetts

Copper Paint Manufacturers for 70 Years



You Need *this* Book~

THE only complete work on marine paint and painting available today. Replete with advice and painting hints, it will prove of extreme value to every boat owner.

Thirty-two pages (Size 5" x 7") attractively illustrated, of authoritative data on exactly how best to paint every part of your boat, and the proper paints, varnishes and other items to use in the painting. It outlines in an interesting manner the relative merits of various paint treatments. The chapter on "Bottoms" is alone well worth the reading.

A copy is yours if you will write for it, enclosing 12c in stamps. Send for your copy NOW!

Woolsey's Marine Paints and Varnishes Have Proved Their Merit

Since 1853 Woolsey has provided the boat owner with Paints, Varnishes and Other Products for every part of the boat. The name Woolsey is synonymous with quality and proved adaptability for the intended service. Here are a few well known Woolsey products:

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The guaranteed worm, barnacle and grass-proof copper bottom paint. In Brown, Red and a new one-season Green. Also the famous Copper BEST paint, Brown.

Woolsey's Yacht White

The finest, the whitest and most durable Yacht White that can be made. Its reputation is world-wide. Gloss, Semi-Gloss and Flat.

Cawspar and Tungspar Varnishes

Cawspar, the serviceable 100% Bakelite Resin Varnish that wears remarkably, and Tungspar, the aristocrat of pale marine varnishes. Will not turn white.

If you want to be sure that the Marine Paint, Varnish or Other Product is the best obtainable for the purpose, specify Woolsey's.

WOOLSEY'S

C. A. Woolsey Paint & Color Co.

Established 1853

Miami Tampa — Jersey City, N. J. — Houston San Francisco

But that was no time for talk, although the total depravity of inanimate objects would have been a pleasing subject for discussion. There was no wind, but the tide and current were having a little altercation: One said, "We're going *out*." The other said, "We're going *in*." And both were very decided about it. Our ship, which the crew had long ago rechristened the *Comic*, seemed very small amid the big river craft plowing by on all sides. It was a very bad quarter of an hour for this amateur yachtsman.

The close-up of a tug bearing down on us looked very much like the Flatiron Building. And it's no joke to have a liner bent on scraping paint off your rail, with a crazy ferry boat blocking your exit. Steerageway was at a premium, so we grabbed paddles and paddled hard, missing a moving mountain by inches. Paddling a 24-foot boat in the current of the East River!

We succeeded in dodging the traffic, which seemed to be trying to run us down, foiled the efforts of the tide rips to swamp us, and after a trial or two, got a line across to a tug moored to a pier. As we swung alongside in relief, a voice was heard from her pilot house, "Hey! You can't lay here. We're pulling out in a minute!" So we watched for an opening and thrust ourselves again into the current, which, taking entire charge of the situation, slammed the *Comet* broadside against Fulton Street Pier and held her there as hard and fast as though she were aground.

By careful work and the help of some men on the dock, we got her safely around into Fulton Basin where we edged her as far back from that river as possible. We tied up alongside a fisherman, whose bouquet we didn't notice in the excitement, and then sat and looked at each other. This time neither of us answered back.

The ship's company was disinclined to talk over the little incident just past, so the crew went uptown, where he could see something besides water, while the Captain spent the night aboard and wondered what kind of fish could make such a smell. He made friends with the fishermen, who were heading east the next day and finally worked an offer to take us in tow as far as Stepping Stones Light.

The last day of the voyage broke bright and clear. The river again argued the "*ins*" and "*outs*," our motor was still on strike and our canvas in a harbor furl, but the way we were snaked up through Hell Gate left nothing to be desired in the way of thrills — I never was bounced around so since I rode on Grandfather's knee. Old Man Weather really hadn't been with us since we left the Keystone Yacht Club, but as we poked our stem around Throgg's Neck he came galloping out of the southwest. We were in high spirits — much like an old horse nearing his stable. So we dropped the tow line and, waving farewell to our escort, set every stitch of canvas, with a burgee at the main truck, and laid a course for the club anchorage.

Our final port was, in that breeze, a lee shore, so before dodging among the anchored yachts, we tucked a reef in the main, and furled the jib. Off the club dock the ship was hove to and the anchor dropped for what we thought was the last time; but she dragged — what with the high seas and the strong wind — so it was up mainsail and hook, and we beat offshore to open water, where we finally located a heavy mooring and made all secure — two hundred miles in twenty-eight days — probably a record.

We signalled for a small boat, stowed our gear and went ashore, not altogether glad that our sporty trip was finished. And many times since have the flames in the fireplace and the pages of my book taken on the semblance of a Chesapeake Bay shipwreck, or a wild ride up the East River. Or even of a Rock Hall pie.

WHEELER "PLAYMATE"

CRUISERS
SEA SKIFFS
YACHTS

Three new models—31 Ft. Standard, 38 Ft. Combination Sedan and 46 Ft. Diesel—about to head into the Atlantic Ocean for trials in February

IN each popular size you will find a Wheeler Playmate the leading value. Before purchasing elsewhere you should look into the details of what we are offering.

Get Literature: Visit Plant and see boats under construction. Arrange for demonstration.

Prices never lower – Very high values!

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Delightful layouts, sizes 27', 31', 34', 38', 42'. Sensational new 46' yacht, also 52', 60', and 70'.

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We are successfully pioneering the Diesel pleasure boat field. See new 34' for $5950. Also 38' and 42' models.

Have you seen new 46 footer, which cruises for 3c a mile? Also 52', 60', and 70' yachts.

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22 ft. — open	$1275
26 ft. — semi-shelter	1820
28 ft. — raised deck	2470
30 ft. — sport sedan	2660
34 ft. — sport fisherman	3450

In requesting literature, kindly advise as near as possible the size you are interested in, as we have separate catalogs on our various boats

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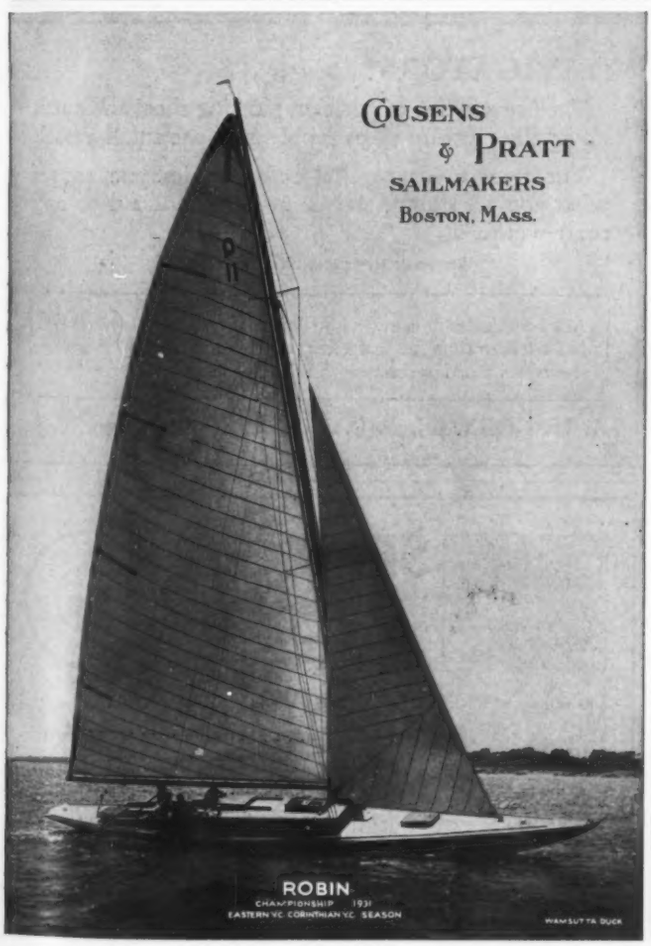
Foot of Cropsey Avenue, Brooklyn, N. Y.
Telephone MAyflower 9-7600



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Besides bringing safety, Lux reduces marine insurance rates. Prices begin as low as $50.00. Send for the free booklet, "Cruising Without Fears"—don't take a chance this season.

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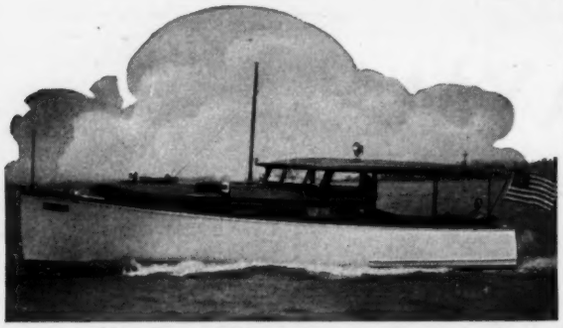

USE YOUR OWN "YARDSTICK"—

The new Matthews "38" Utility Boat — the boat of a thousand uses — has set the industry abuzz at $3880, afloat Port Clinton.

Whether it's design, construction, materials, arrangement, details, or just general appearance, or all these features combined which you personally choose as your method of measurement of cruiser value — go as far as you like on Matthews "38" or Matthews "46" Stock Cruisers. We'll add even a further suggestion — resale price.

We invite and urge studious, intelligent comparison of the Matthews "38" Twin Cabin Cruiser pictured above, with anything like it at any price. The Matthews "38" Twin Cabin Cruiser, at $5590.00 afloat Port Clinton, stands in a class by itself for value in a market cluttered with built-to-a-price boats. This is a true Matthews "38" in every respect and detail, with the same husky construction and that same inherent seaworthiness and ability that Matthews "38" owners, far and wide, always boast about.

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See announcement in March Yachting

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Suitable Sizes for All Boats

This is fitting out time and one of our searchlights will improve the appearance of your boat.

Catalog I—Incandescent *Catalog A—Arc*
Catalog F—Floodlights

THE CARLISLE & FINCH CO.

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A New 22-Foot Richardson

There have been so many requests for a cruiser of small overall dimensions, yet with full cruising accommodations, that the Richardson Boat Co., Inc., North Tonawanda, N. Y., are offering the Richardson "Little Giant" to meet these requirements.

This Richardson is 22 feet long overall, 7 feet 6 inches in beam, and with draft of 2 feet 2 inches. In spite of her limited overall dimensions, she has an exceptional amount of usable space.

The toilet room is placed beneath the forward deck. This room is fitted with suit-case shelf, toilet and clothes locker. Headroom is 4 feet 6 inches. The deckhouse cabin has full six-foot headroom and is fitted with two spring and mattress berths with storage space beneath, a galley with food and dish lockers, stove, and sink. Five of the cabin windows open for complete ventilation. Abaft the deckhouse cabin is a large cockpit. A cushioned seat for five people extends across the stern. In addition to this, four folding yacht chairs can be accommodated.

A Gray 4-cylinder marine motor of approximately 30 h.p., completely equipped, propels this little yacht at nearly 15 miles per hour. Equipment consists of electric running and cabin lights, horn and whistle, fire extinguisher, bilge pump, life preserver, anchor and anchor line, dock lines, ventilating system, boat hook, etc.

The Richardson "Little Giant" is built of quality materials and with first-class workmanship by skilled and experienced mechanics. Every non-essential has been eliminated to keep the selling price down to $1200.

\+ + +

A Special Fishing Cruiser by Matthews

The Matthews Company, Port Clinton, Ohio, recently delivered by rail the 38-foot twin cabin cruiser *Alborac IV* to her owner in Miami Beach, Florida.

Alborac IV is a standard 38-foot twin cabin cruiser completely equipped for offshore fishing. The owner's stateroom forward has twin beds and the main cabin is fitted with four Pullman berths. Between the two cabins amidships is located the toilet, to port, and the galley, to starboard.

The long after cockpit is specially fitted and adapted to fishing, with a deep fish box installed across the full width of the after deck and two swivel fishing chairs. The canopy is shortened and a wide removable seat is installed in the cockpit facing aft.

To provide harpooning facilities, the boat has a heavy bowsprit and harpoon pulpit installed with a roller chock on each side to guide the anchor lines. A crow's nest on the mast permits of distant sighting.

The power plant is very flexible and well adapted to fishing and trolling. The main engine is a 40 h.p. heavy duty Palmer and the auxiliary engine is a Buda 4-48 driving through a separate shaft for trolling use.

Marine Glass—magnifies 7 times; 2-inch objective lenses. $105. Others, $50 to $121.

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CRUISABOUTS

A Motor Cruiser on the Amazon

(*Continued from page 55*)

The two- or three-knot current got us down to the Rio Branco in 48 hours, and then we anchored, using a contrivance that Smith concocted with six sticks and a gasoline tin full of sand. We had no gasoline and the battery was low — very low. It would be well to say that the storage battery is the weak point in the modern gas engine operating in Amazonia. The unparalleled humidity of the region does peculiar things to an accumulator. Sometimes they will stay charged for months; at other times they will discharge over night. In Manaos automobile owners frequently suffer from the same trouble. I think it safe to say that a motor boat venturing far from either Para or Manaos should be equipped with a separate generator unit capable of recharging her storage batteries.

We now had the Rio Demeni to ascend. The mouth of the Demeni is nearly a hundred miles farther up the Negro than the mouth of the Branco. Fortunately, a small cattle steamer descended the Rio Branco from the British Guiana frontier and took us in tow. She dropped us at the mouth of the Branco where I was to await gasoline and a charged battery from Manaos. Smith and Taji descended to arrange these necessary items.

Before Smith could return, a trading vessel passed up the Negro and from her we had a tow to Barcellos, the tiny town opposite the mouth of the Araca and Demeni. Barcellos was once the capital and 200 years ago she had a population of 5,000 with factories that exported cloth to Portugal. Today, a few tumble down houses and seventy or eighty people gathered around the Silesian mission are all that remain.

This is really the end of *Rio Mar's* voyage. The Demeni voyage I append because it was also by motor boat. The Demeni was reported too dry to be navigable. Only a tiny craft that men could almost pick up and carry over the sand bars would serve. I therefore arranged for an 18- or 19-foot boat powered by a 3½ h.p. hot spot kerosene engine. She towed a little barge alongside whose function was to carry fuel and serve as sleeping quarters for the owner, the cook and myself. Her speed in calm water was three knots.

On most maps, the Rio Demeni is not marked. We ascended it to the first rapid and there, at a *maloka* of the Shiriana, the river was still a quarter of a mile wide. The voyage was miserable and occupied six days. The silly motor had to be started with a blow torch and it made an abominable noise and vibrated in such a fashion that you continually expected it to jump out of its bed. But it always ran; there was nothing to get out of order. The Shiriana, having been approached with a goodly quantity of trade goods, agreed to take us to a *maloka* of the Uaika, a wild and exceedingly primitive tribe that had until this point eluded our efforts to find them.

With the silly little launch we got through three days of rapids and fast water and late in the afternoon of the third day we reached the mouth of the Kuriviti, a tiny stream on whose log-choked banks the *maloka* was said to be located. Leaning against a fallen tree was a freshly cut fishing pole. Our Uaika were home. Not far above we saw fresh tracks in the sandy beach and a little later the beginning of a path into the dark forest. The Shiriana were tense and their feelings rapidly communicated themselves to the rest of the party. The Uaika were reputedly dangerous and their depredations in the regions had made them a much-feared people.

The launch was tied up on a bank opposite the path. When I began to choose some trade goods as presents to

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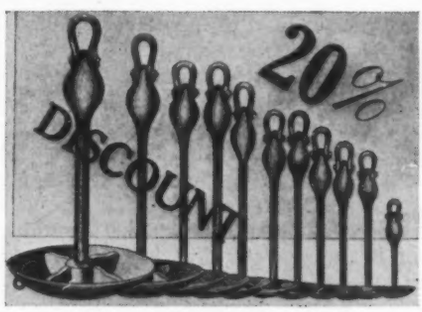

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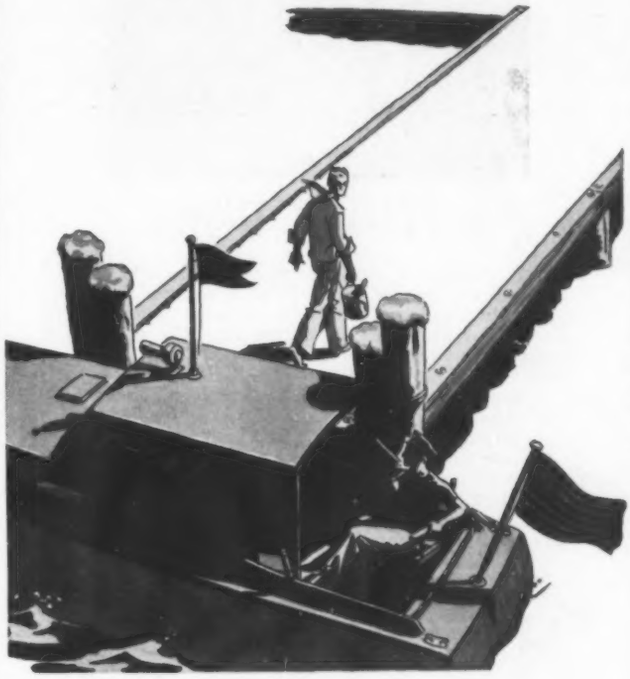

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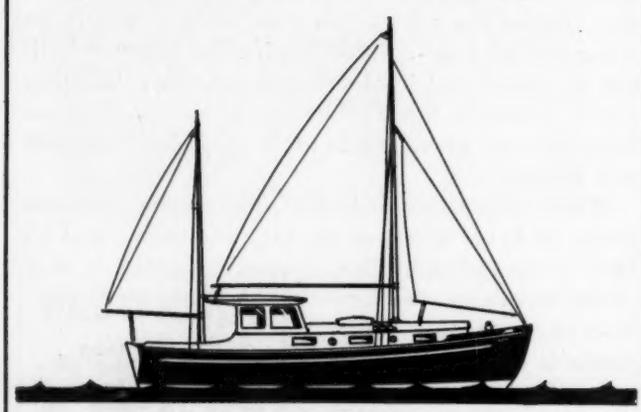

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our prospective hosts, the Shiriana chieftain remarked nervously, "Don't take any of these things — just take a gun."

In single file we followed the trail, seven men in all. The path led south, through the still, gloomy vegetation — attacked in it, a party could be decimated without seeing their assailants. After half an hour we reached a large banana patch and crossed it. Soon after the hum of human voices could be heard. The Shiriana chieftain held up his hand, he bade each of us fire one shot and follow him, running, into the *maloka*. The idea was that we would give friendly warning of our coming, at the same time intimate our ability to protect ourselves and get into the *maloka* before its inhabitants could flee to the forest.

The roar of the volley had scarcely died away before a prolonged howl rose — such a howl as I never expected to hear from any but Hollywood savages. In a wink we were confronted by ten stark naked bowmen who charged up the trail. Seeing us, they rushed back to the *maloka*. We followed on a run, and still uncertain of our welcome, entered the great structure. Suffice it to say that a great deal of talk was necessary to prove to the unfriendly Uaika that we were nice people and, later, a great deal of trade goods. The point I wish to make is that you can get to some pretty exciting places in a motor boat in the Amazon Basin.

The Araca, an unexplored stream, was later ascended, but its ascent would simply be a repetition of things of which I have already spoken. Later the *Rio Mar* was brought down to Manaos and there we left her awaiting a steamer to bring her home.

More important, I think, would be a rough summary of what our experiences of the motor cruiser in the Amazon had taught us. In regard to accommodations, the ordinary stock cruiser has far too much in her to be comfortable in the tropics for long periods. The tendency to jam a cabin full of bunks is especially deplorable. In a small cabin the animal heat of four persons in itself is awful. The usual galley-in-the-cabin arrangement is unbearable, of course. The galley should be well aft, in a small house of its own.

On a 30- to 40-foot craft there should not be more than two berths in a cabin, with two more folding ones in the pilot house. Locker space is especially desirable and a shower should be rigged at all costs. I regard a separate electric plant that can charge accumulators as indispensable. To be left crippled in a far Amazon tributary is anything but pleasant. I also strongly favor an artificial ventilation system. It is surprising what a difference a current of air makes in a hot cabin.

The motor should be chosen with an eye to cruising radius rather than speed, but it also should be borne in mind that if the power plant is not a husky one — if too much concession to radius is made at the expense of speed — you would frequently encounter impassable stretches of fast water that could easily be navigated were the engine bigger. In the sea skiff I think I would have preferred a motor of some 80 h.p. I would have liked a magneto as well as a battery ignition system. I would choose a Kermath again but would let no Brazilian mechanic monkey with it.

The Amazon Basin has much to offer yachtsmen who want something new, something different. If you are careful to anchor far from human habitation, you will never get fever and aboard a trim little vessel you will be insulated from most of the Amazon inconveniences, and you can make as many contributions to geography, ethnology, archaeology, geology, botany and medicine as you like. But be careful of floating logs, never forget to give your Brazilian visitors a cup of coffee, don't be in too much of a hurry, and don't talk about politics or the Monroe Doctrine.

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Further information about Jaton cloth may be obtained by writing to the Marine Canvas Supply Corp., 700 Court St., Brooklyn, N. Y.

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To supplement their catalog illustrating the complete line of Wilcox, Crittenden marine hardware, this well-known firm has recently published a supplementary catalog displaying the many new and improved products which are being placed on the market this year. Notable additions to the marine hardware line which appear in the supplement are new oil compasses, hurricane tested anchors, stern and mast truck lights, cast streamlined lights, outboard steerers, deck controls, new galley and lavatory pumps, etc.

In addition to this supplement Wilcox, Crittenden & Co. has printed an attractive folder illustrating their "Nautic Lamps," book ends, door knockers, ash trays, andirons and other nautical fixtures for household decoration and use. Complete literature will be furnished to readers who will send requests to the company at Middletown, Conn.

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Texaco Publishes Marine Engine Instruction Book

A comprehensive instruction book on the care of power craft, with special reference to fuels and lubricants, has been written by William Harrigan, technical adviser to the marine sales division of The Texas Company, for distribution to marine enthusiasts who want to provide proper care for their boats and engines.

The outstanding feature of the book is several pages of charts specifying the proper grades of marine motor oil for three different ranges of temperatures in which inboard and outboard motors are run, and prescribing the kind of oil to be used in lubrication of Diesel engines.

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